INSTALLATION RESTORATION PROGRAM

Final
Remedial Investigation Report

Volume II
Appendix A-L

120th FighterWing
Montana Air National Guard
Great Falls International Airport
Great Falls, Montana

May 1997

HAZARDOUS WASTE REMEDIAL ACTIONS PROGRAM
Environmental Restoration and Waste Management Programs
Oak Ridge, Tennessee 37831-7606
managed by LOCKHEED MARTIN ENERGY SYSTEMS, INC.
for the U.S. DEPARTMENT OF ENERGY under contract DE-AC05-84OR21400

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13. ABSTRACT *(Maximum 200 Words)*

A Remedial Investigation was conducted at the Great Falls Air National Guard Base during April, May, and July 1996. During the period four IRP sites were investigated (IRP Sites 1, 6, 7, and 8). The investigation consisted of drilling 14 soil borings and installing 10 monitoring wells.

At Sites 1 and 6, no contaminants in the soil or groundwater were found above State and Federal cleanup levels; and a Decision Document to support no further action is recommended. At Sites 7 and 8, no contaminants were found in the soil above State and Federal cleanup levels; and a Decision Document to support no further action with respect to soil contamination is recommended. At Sites 7 and 8, groundwater contamination above State and Federal cleanup levels was detected. The contamination included petroleum hydrocarbons, chlorinated solvents, and dissolved metals. It is recommended that an Engineering Evaluation/Cost Analysis be prepared to evaluate remedial alternatives for the groundwater at Sites 7 and 8.

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APPENDICES

CONTENTS

APPENDIX A

FIELD CHANGE REQUEST FORMS

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FIELD CHANGE REQUEST FORM

Date: 4/25/96

Field Change No.: 1

Project No.: 8056-101 Montana Air National Guard

Applicable Document Remedial Investigation / Feasibility Study Work Plan, April 1996

Description: Sample identification, Section 6.0 of QAPP. Applicable Sections are 6.1, 6.11, 6.1.2, 6.1.3, and 6.1.4. Pages B6-1, B6-2.

Reason For Change: This Sampling System is Complex and is not applicable for this field activity.

Recommended Disposition: To use an easier numbering system for soil and groundwater samples. Soil Sample be identify by Soil boring and depth. and groundwater Sample be identify by site location, well Number and the round of Sampling event. example:
6-SB15-8.0-8.5
6-7MW2-GW1

Impact on Present and Completed Work: None

Final Disposition: As Recommended Disposition.

Requested By:
Field / Project Manager: Michael M. Ghatizadeh

Approvals:
Project Manager: V. Muller for Fritz Lebow

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FIELD CHANGE REQUEST FORM

Date: 4/24/96

Field Change No.: 2

Project No.: 8056-101 Montana Air National Guard, Great Falls, Montana

Applicable Document RI/FS Work Plan, April 1996, SOP #4. Field equipment Decontamination, Section 4.1.

Description:
Use of ASTM-Type I water rather than ASTM Type II for equipment Decontamination.

Reason For Change:
Due to the fact that we received ASTM Type I Water in the field three days before field operation and ASTM Type II was not available, it was agreed to use Type I ASTM water for equipment Decon in the field, if we collect a sample of ASTM Type I water and analyze it by fixed based lab.

Recommended Disposition:
Agreed to use ASTM Type I Water for equipment Decon, if analyzing a samples by fixed-base lab.

Impact on Present and Completed Work: None.

Final Disposition:
Used Type I, ASTM water for equipment Decon during soil sampling equipment Decon. All groundwater sampling was done by disposable bailers, so it did not effect the project field quality objective.

Requested By:
Field / Project Manager: Michael M. Ghazizadeh PhD. - Site Manager.

Approvals: HAZWRAP Sr. Hydrogeologist.
Project Manager: W Hedberg for Fritz [illegible]

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FIELD CHANGE REQUEST FORM

Date: 4/24/96

Field Change No.: 3

Project No.: 8050-101 Montana Air National Guard, Great Fall, Montana.

Applicable Document RI/B Work Plan April 1996.

Description: Change of Soil boring and Monitoring well location, Pages 6-13, 6-18 of Section 6 of Work Plan.

Reason For Change: 6-SB-18 - under electric line. 8-SB8 was moved, near underground utility line. ~~7-MW~~ 7-MW5 was placed at approximately 80 ft at NE corner of Bldg 23 - upgradient
7-MW3 was drilled across taxiway to get downgradient of exiting 7-MW1 monitoring well.
8-SB 7 Moved, near underground electrical line.

Recommended Disposition: Moved SB location to stay away from underground utility lines, as recommended by Civil Engineering Dept from Montana Air National Guard Personnel.
7-MW3 was move to have downgradient well and water sample.
7-MW5 located NE of Bldg 23 to have an upgradient well.

Impact on Present and Completed Work:

None.

Final Disposition: location were approved by site Manager (optech) and Hazwrap Sr. Hydrogeologist, Dr. Bill Hedberg.

Requested By:
Field / Project Manager: Michael M. Ghazizadeh PhD site Manager

Approvals: Hazwrap Sr. Hydrogeologist Dr. Bill Hedberg;
Project Manager: W. [illegible] for Fritz Lebow

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FIELD CHANGE REQUEST FORM

Date: 5/3/96

Field Change No.: ~~3~~ No. 4

Project No.: 8056-101 Montana Air National Guard, Great Falls, Montana.

Applicable Document RI/FS Work Plan, April 1996. Section 4.3.1, QAPP, Page B4-3.

Description:
SRI Field GC having all kinds of problem, can't get it to work properly, communicate with SRI factory and owners, still could not get the equipment to work - Work Plan RI/FS, April, 1996.

Reason For Change:
Several mechanical and electronic problem with field GC. Attempted for several days to operate the field GC, but attempts were unsuccessful.

Recommended Disposition:
Discussion between Montana Air National Guard Project Manager (David Baum, Optech) and Sr. Hydrogeologist at HAZWRAP (Dr. Bill Hedberg) and Fritz Lebow (HAZWRAP) Project Manager), it was decided to return field GC and select several samples from casing portion of five MWs intervals and collecting three grab groundwater samples from 6-MW1, 7-MW3, and 1-MW2 and submit to laboratory (fixed-base) and analyze them within 24 hours as a substitute for field GC.

Impact on Present and Completed Work:
None

Final Disposition:
Soil samples were submitted to lab with groundwater grab samples collected from 6-MW1, 7-MW3, and 1-MW2.

Requested By:
Field / Project Manager: Michael M. [illegible] - Site Manager as requested by MANG - Optech Project Manager - David Baum.

Approvals:
Project Manager: Sr. Hydrogeologist (HAZWRAP) Dr. Bill Hedberg.
[signature] for Fritz Lebow

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MODIFICATION TO WORK PLAN FOR FIELD WORK

ORIGINATOR/DATE: 4/25/96 Project No. 8056-101

ANG BASE/STATION: Montana Air National Guard, Great Falls Montana

WORK PLAN TOPIC: Monitoring Well Construction and Completion, Section 7.1.4.1, Page 7-3.

SUGGESTED MODIFICATION FOR FIELD WORK: Since the actual groundwater depth is unknown and during the SI investigation they used 20' of screen, it was decided, Michael M. Ghazizadeh - Site Manager and Bill Hedberg (HAZWRAP) to increase the length of screen interval.

REASON FOR MODIFICATION: Use 20' of screen interval rather than 10' of screen, as suggested in Work Plan Page 7-3, Section 7.1.4.1 (Monitoring well Construction and Completion).

Sr. Hydrogeologist (HAZWRAP) Approval:
Site Manager Approval: Michael M. Ghazizadeh PhD

ANGRC PROJECT MANAGER APPROVAL: NA

W. H. Hedberg for Fritz LeBow

APPENDIX B

BORING LOGS AND MONITORING WELL CONSTRUCTION LOGS

KEY TO BORING LOG SYMBOLS

UNIFIED SOIL CLASSIFICATION SYSTEM – ASTM D2487				
MAJOR DIVISIONS			SYMBOL/ GRAPHIC	DESCRIPTIONS
COARSE-GRAINED SOILS (>50% Smaller Than #200 Sieve)	GRAVELS (More than 50% of coarse fraction is larger than the #4 sieve size.)	Clean gravels with little or no fines	GW	Well-Graded Gravels, Gravel – Sand Mixtures
			GP	Poorly Graded Gravels, Gravels – Sand Mixtures
		Gravels with over 12% fines	GM	Silty Gravels, Poorly Graded Gravel-Sand-Clay Mixtures
			GC	Clayey Gravels, Poorly Graded Gravel-Sand-Clay Mixtures
	SANDS (More than 50% of coarse fraction is smaller than the #4 sieve size.)	Clean sands with little or no fines	SW	Well-Graded Sands, Gravelly Sands
			SP	Poorly Graded Sands, Gravelly Sands
		Sands with over 12% fines	SM	Silty Sands, Poorly Graded Sand-Silt Mixtures
			SC	Clayey Sands, Poorly Graded Sand-Clay Mixtures
FINE-GRAINED SOILS (>50% Smaller Than #200 Sieve)	SILTS AND CLAYS (Liquid limit less than 50)		ML	Inorganic Silts and Very Fine Sands, Silty or Clayey Fine Sands
			CL	Inorganic Clays of Low to Medium Plasticity: Gravelly, Sandy or Silty Clays; Lean Clays
			OL	Organic Clays and Organic Silty Clays of Low Plasticity
	SILTS AND CLAYS (Liquid limit greater than 50)		MH	Inorganic Silts, Micaceous or Diatomacious Fine Sandy or Silty Soils, Elastic Silts
			CH	Inorganic Clays of High Plasticity Fat Clays
			OH	Organic Clays of Medium to High Plasticity, Organic Silts
HIGHLY ORGANIC SOILS			Pt	Peat and Other Highly Organic Soils

Sample retained for on-site screening.

Sample prepared for laboratory analysis.

Water Table Level.

PID Photo-Ionization Detector readings (ppm).

ND Parameter Not Detected

NA Measurement Not Applicable, Groundwater Not Detected

- No Measurement Performed

NR No Sample Recovery

	Asphaltic Concrete
	Portland Cement Concrete
	Cement Grout
	Boulders or Bedrock

DRAFT FINAL

FIGURE A.1

FORMS\KEYLOG2

KEY TO BORING LOG SYMBOLS
120th FG, Montana Air National Guard
Great Falls, Montana

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SEPTEMBER 1995

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LOG OF BORING 1-MW2

Project No.:	8056-101	**Sampling Method:**	Rock cuttings from Air Rotary
Logged By:	M. Ghazizadeh	**Depth Drilled:**	70.0 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	-
Driller:	Mike Downey	**Date Measured:**	-
Date Drilled:	05/01/96	**Surface Elevation:**	3550.91 FT.
Drilling Method:	Air Rotary-Hammer	**TOC Elevation:**	3652.69 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Surface soil, light brown, poor quality sample.	0				
5					Sandstone, silty, light brown, reddish brown, moist, no hydrocarbon odor, at 7 ft. become yellowish brown sand, slightly moist.	0				
10					Sandstone, fine to medium-grained, slightly moist, no hydrocarbon odor.	0				
					Sand, change to silty-clayey very fine, (10 YR 6/6), slightly moist, no hydrocarbon odor.	0				
15					Sandstone, poor quality sample, introduced little water to cleanup hammer and hole, fine to medium-grained brown sandstone, slightly silty.	0				
20					Sandstone, light brown, silty, very fine-grained slightly moist, no hydrocarbon odor.	0				
25					Same as above.	0				
30					Sandstone, silty, light brown, slightly moist, no hydrocarbon odor.	0				
35					Sandstone, silty, reddish brown, very fine-grained, sorted.	0				

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LOG OF BORING 1-MW2

Project No.:	8056-101	**Sampling Method:**	Rock cuttings from Air Rotary
Logged By:	M. Ghazizadeh	**Depth Drilled:**	70.0 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	-
Driller:	Mike Downey	**Date Measured:**	-
Date Drilled:	05/01/96	**Surface Elevation:**	3550.91 FT.
Drilling Method:	Air Rotary-Hammer	**TOC Elevation:**	3652.69 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Same as above, reddish brown.	0				
45					Same as above.	0				
50					Sand, trace of moisture, about 51 ft., slightly krilled dust, reddish brown silty, very fine-to fine-grained sand, no odor.	0				
55					Sand, dark gray, very fine-to fine-grained sand, (10 YR 5/1), slightly moist, no hydrocarbon odor.	0				
60					Sand, light gray, very fine-to fine-grained sand, dry, no hydrocarbon odor, at 58-59 ft., brownish gray, very fine-grained sand.	0				
65					Sandstone, become dark gray, very fine sandstone, (10 YR 5/1), dry, no hydrocarbon odor.	0				
70					Total Depth: 70.0 FT.					
75										

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LOG OF BORING 6-SB15

Project No.:	8056-101	**Sampling Method:**	3" Stainless-Steel Split Spoon
Logged By:	Kathryn Pritchett	**Depth Drilled:**	8.1 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	Not Encountered
Driller:	Clint Nelson	**Date Measured:**	NA
Date Drilled:	04/26/96	**Surface Elevation:**	3676.16 FT.
Drilling Method:	Hollow-Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)			
					Asphalt.				
		95			Sand, some gravel (up to cobble size), little silt, very fine-to very coarse-grained sand, poorly sorted, moist, loose, yellowish brown (10 YR 4/4), dark.	394			
	19 45 90	80			Weathered Sandstone, very fine-to coarse-grained sand, little silt, firm, crumble with moderate pressure, brownish yellow (10 YR 6/6), iron oxide stains.	9.4			
5	65 50/0.2'	30			Geotech Sample. Same as above.	1.2			
	100/0.4'				Same as above.	536			
					Total Depth: 8.1 FT. BLS.				
10									
15									

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LOG OF BORING 6-SB16

Project No.: 8056-101
Logged By: Kathryn Pritchett
Drilling Co.: O'Keefe Drilling
Driller: Clint Nelson
Date Drilled: 04/30/96
Drilling Method: Hollow-Stem Auger

Sampling Method: 3" Stainless-Steel Split Spoon
Depth Drilled: 9.5 FT.
Depth To Water: Not Encountered
Date Measured: NA
Surface Elevation: 3676.69 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)			
					Concrete.				
		90			Sand,little to some silt, trace clay, some gravel (up to cobble size), moist, yellowish brown (10 YR 5/4).	11.1			
		25			Weathered Sandstone, little to some silt, very fine-to coarse-grained sand, yellowish brown (10 YR 5/6), dry.	25.5			
5									
		50			Same as above, strong odor.	790			
10					Total Depth: 9.5 FT. BLS.				
15									

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LOG OF BORING 6-SB17

Project No.:	**8056-101**	**Sampling Method:**	**3" Stainless-Steel Split Spoon**
Logged By:	**Kathryn Pritchett**	**Depth Drilled:**	**9.9 FT.**
Drilling Co.:	**O'Keefe Drilling**	**Depth To Water:**	**Not Encountered**
Driller:	**Clint Nelson**	**Date Measured:**	**NA**
Date Drilled:	**04/26/96**	**Surface Elevation:**	**3676.54 FT.**
Drilling Method:	**Hollow-Stem Auger**		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)			
					Asphalt.				
		90			Sand, some silt, little gravel (pebble size), moist, loose, very fine-to coarse-grained sand, moderate to poorly sorted, yellowish brown (10 YR 6/5).	478			
	8 11	100			Geotech Sample.	30			
5	33 100 100/0.3'	50			Weathered Sandstone, well sorted, light grey color, odor, very fine-to coarse-grained sand, firm, crumble moderate pressure, moist.	53			
	100/0.3'	100			Geotech Sample.	178			
					Sand, some silt, very fine-to medium grained sand, well sorted, loose, moist, hydrocarbon odor.				
10	100/0.4'	65			Same as above.	660			
					Total Depth: 9.9 FT. BLS.				
15									

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LOG OF BORING 6-SB18

Project No.:	8056-101	Sampling Method:	3" Stainless-Steel Split Spoon
Logged By:	Kathryn Pritchett	Depth Drilled:	8.3 FT.
Drilling Co.:	O'Keefe Drilling	Depth To Water:	Not Encountered
Driller:	Clint Nelson	Date Measured:	NA
Date Drilled:	04/26/96	Surface Elevation:	3676.42 FT.
Drilling Method:	Hollow-Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)			
					Asphalt.				
		100			Sand, little silt, little to some gravel (up to pebble size), dry to slightly moist, loose, very coarse-grained sand.	1.2			
	23 26	100			Geotech Sample. Bedrock encountered.	0			
5	52 100/0.2'	25			No sample collected-except GC (field). Weathered sandstone, little silt, very fine-to coarse-grained sand, firm, crumbles with medium pressure, moderate to well-sorted sandstone, yellowish brown, (10 YR 5/6).	1.4			
	68 100/3'	35			Same as above.	55			
	100/0.3'	60			Sand, some silt, trace clay, very fine-to coarse-grained sand, loose, dry, yellowish brown (10 YR 5/6).	100			
					Total Depth: 8.3 FT. BLS.				
10									
15									

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LOG OF BORING 6-DW1

Project No.:	8056-101	**Sampling Method:**	3" Stainless-Steel Split Spoon
Logged By:	Kathryn Pritchett	**Depth Drilled:**	7.6 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	Not Encountered
Driller:	Clint Nelson	**Date Measured:**	NA
Date Drilled:	04/27/96	**Surface Elevation:**	3676.35 FT.
Drilling Method:	Hollow-Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)			
0					Asphalt.				
5	100	100			Sand, little silt, trace clay, little to some gravel (granule to pebble size), very fine-to coarse-grained sand, moist, dark grey (10 YR 4/1), strong odor, loose, fill with pea gravel.	346			
	100/0.3'	35			Same as above.	633			
					Total Depth: 7.6 FT. BLS.				
10									
15									

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LOG OF BORING 7-DW1

Project No.:	8056-101	**Sampling Method:**	3" Stainless-Steel Split Spoon
Logged By:	Kathryn Pritchett	**Depth Drilled:**	4.2 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	Not Encountered
Driller:	Clint Nelson	**Date Measured:**	NA
Date Drilled:	04/27/96	**Surface Elevation:**	3676.10 FT.
Drilling Method:	Hollow-Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)			
					Asphalt.				
		80			Sand, some silt, trace to little clay, very fine-to medium-grained sand, brown (10 YR 4/3), moist, firm, hard.	42			
	100	100			Sand, some silt, little gravel (pebble size), very fine-to coarse-grained sand, moderate to poorly sorted, greyish brown (10 YR 5/2), firm, hard, clay at bottom of spoon, some silt, light grey (10 YR 7/1), hard, very dense.	37			
5					Total Depth: 4.2 FT. BLS.				
10									
15									

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LOG OF BORING 7-SB5

Project No.:	**8056-101**	**Sampling Method:**	**3" Stainless-Steel Split Spoon**
Logged By:	**Kathryn Pritchett**	**Depth Drilled:**	**8.6 FT.**
Drilling Co.:	**O'Keefe Drilling**	**Depth To Water:**	**Not Encountered**
Driller:	**Clint Nelson**	**Date Measured:**	**NA**
Date Drilled:	**04/27/96**	**Surface Elevation:**	**3675.74 FT.**
Drilling Method:	**Hollow-Stem Auger**		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)			
					Asphalt.				
	16 13 12 18	65			Silt, little to some clay, trace gravel (cobble), stiff, firm, moist, light grey (10 YR 7/1), small prismatic structure sand.	153			
5	60 100/0.4'	65			Sand, some silt, very fine-to medium-grained sand, hard, very dense, dry, brownish yellow (10 YR 6/6).	19			
	61 102/0.1'	95			Silt, trace sand (very fine-grained), hard, very dense, sandstone gravel (cobble size), fine-to coarse-grained sand, moderately sorted, clay at bottom of split spoon, greyish brown (10 YR 5/2), very plastic, hard, very dense.	761			
10					Total Depth 8.6 FT. BLS.				
15									

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LOG OF BORING 7-SB6

Project No.:	8056-101	Sampling Method:	3" Stainless-Steel Split Spoon
Logged By:	Kathryn Pritchett	Depth Drilled:	8.0 FT.
Drilling Co.:	O'Keefe Drilling	Depth To Water:	Not Encountered
Driller:	Clint Nelson	Date Measured:	NA
Date Drilled:	04/27/96	Surface Elevation:	3676.50 FT.
Drilling Method:	Hollow-Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)			
		75			Sand and silt, trace clay, trace gravel (granule to pebble), dark brown (10 YR 3/3), moist, soft, loose, very fine-to coarse-grained sand.	32			
	22 39 37 59	80			Sand and silt, little clay, very fine-to medium-grained sand, yellowish brown (10 YR 5/4), trace gravel (granule), hard, dense, moist.	1.5			
5									
	80 100/0.3'				Sand (weathered sandstone), little silt, very fine-to medium-grained sand, hard, very dense, crumbles with moderate pressure, slightly moist, hydrocarbon odor.	232			
					Total Depth: 8.0 FT. BLS.				
10									
15									

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LOG OF BORING 7-SB7

Project No.:	8056-101	Sampling Method:	3" Stainless-Steel Split Spoon
Logged By:	Kathryn Pritchett	Depth Drilled:	8.3 FT.
Drilling Co.:	O'Keefe Drilling	Depth To Water:	Not Encountered
Driller:	Clint Nelson	Date Measured:	NA
Date Drilled:	04/27/96	Surface Elevation:	3675.97 FT.
Drilling Method:	Hollow-Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)			
					Asphalt.				
		100			Silt, some sand, loose, soft, very fine-to coarse-grained sand, brownish yellow (10 YR 6/6), clay at bottom of split spoon, light grey (10 YR 7/1), stiff, firm.	33			
5	36 24 59 100/.3	100			Weathered sandstone, little to some gravels, some silt, very fine-to medium-grained sand, hard, dense to very dense, slightly moist, brownish yellow (10 YR 6/6), hydrocarbon odor.	458			
	100/0.1	25			Same as above, hydrocarbon odor.	218			
					Total Depth: 8.3 FT. BLS.				
10									
15									

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LOG OF BORING 8-SB6

Project No.:	8056-101	**Sampling Method:**	3" Stainless-Steel Split Spoon
Logged By:	Kathryn Pritchett	**Depth Drilled:**	10.3 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	Not Encountered
Driller:	Clint Nelson	**Date Measured:**	NA
Date Drilled:	04/25/96	**Surface Elevation:**	3675.99 FT.
Drilling Method:	Hollow-Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)			
					Asphalt.				
	18 25 100/0.4'	80			Sand, some silt, trace clay, very fine-to very coarse-grained sand, light grey brown, soft, crumble with pressure, dry to moist, weathered sandstone at end.	17.5			
	22 31	50			Geotech Sample. Very weathered sandstone.	-			
5	25 50 50/0.2'	80			Sand, weathered sandstone, very fine-to coarse-grained sand, silt, light yellowish brown to reddish brown, moist, soft, loose, well-sorted.	1.0			
	46 56 50/0.2'	50			Geotech Sample.	-			
10	75 100/0.3'	60			Sand, little silt, very fine-to coarse-grained sand, dry, loose, light to medium yellowish brown.	3.3			
					Total Depth: 10.3 FT. BLS.				
15									

MONTANA ANG GREAT FALLS, MONTANA	OPTECH OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING 8-SB7

Project No.:	8056-101	Sampling Method:	3" Stainless-Steel Split Spoon
Logged By:	Kathryn Pritchett	Depth Drilled:	10.3 FT.
Drilling Co.:	O'Keefe Drilling	Depth To Water:	Not Encountered
Driller:	Clint Nelson	Date Measured:	NA
Date Drilled:	04/25/96	Surface Elevation:	3675.79 FT.
Drilling Method:	Hollow-Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)			
					Asphalt.				
		80			Sand, little to some silt, trace clay, little gravel, moist to dry, loose, very fine-to coarse-grained sand, medium yellowish brown.	174			
	45 61	50			Geotech Sample.	3.3			
5	21 60 51/0.3'	50			Sand, little silt, trace gravels (pebble sized), very fine-to coarse-grained sand, medium yellowish brown, loose, dry.	20.6			
	39 100/0.4'	45			Geotech Sample. Strong odor, same as above.	506			
10		60			Sand (weathered sandstone), very fine-to coarse-grained sand, well-sorted, light yellowish brown with light grey mottles, hard, loose with pressure, hydrocarbon odor, moist.	304			
					Total Depth: 10.3 FT. BLS.				
15									

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LOG OF BORING 8-SB8

Project No.:	8056-101	**Sampling Method:**	3" Stainless-Steel Split Spoon
Logged By:	Kathryn Pritchett	**Depth Drilled:**	10.5 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	Not Encountered
Driller:	Clint Nelson	**Date Measured:**	NA
Date Drilled:	04/25/96	**Surface Elevation:**	3675.95 FT.
Drilling Method:	Hollow-Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)			
					Asphalt.				
	4 5 6	90			Sand, some silt, little clay, very fine-to coarse-grained sand, trace gravel (pebbles), soft, moist, medium yellowish brown.	20.7			
5	30 80 50/0.1'	100			Sand, very fine-to coarse-grained sand, trace silt, weathered sandstone, dry to moist, hard, light yellowish brown.	94			
10	34 91	100			Weathered sandstone, very fine-to medium-grained sand, trace gravel (pebble size), dry, light yellowish brown, well-sorted.	47			
					Total Depth: 10.5 FT. BLS. Note: Spoon refusal at 5.5 FT. auger (bit) to 9.5 FT. and broke up sandstone to drive spoon 9.5 FT. to 10.5 FT. PID reading inside of borehole 800 to 900 ppm range, hydrocarbon odor apparent.				
15									

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LOG OF BORING 8-SB9

Project No.:	8056-101	Sampling Method:	3" Stainless-Steel Split Spoon
Logged By:	Kathryn Pritchett	Depth Drilled:	9.4 FT.
Drilling Co.:	O'Keefe Drilling	Depth To Water:	Not Encountered
Driller:	Clint Nelson	Date Measured:	NA
Date Drilled:	04/30/96	Surface Elevation:	3675.93 FT.
Drilling Method:	Hollow-Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)			
					Asphalt.				
		100			Sand, some silt, some gravel, dark brown (10 YR 3/3), very fine-to coarse-grained sand, moist, granule to pebble size gravel.	0			
5	40 100	100			Weathered sandstone, yellowish brown (10 YR 5/4), slight moist, very fine-to coarse-grained sand, well-sorted.	113			
	100/0.4'	90			Same as above, yellowish brown (10 YR 5/6).	11.1			
10					Total Depth: 9.4 FT. BLS.				
15									

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LOG OF BORING 8-SB10

Project No.:	8056-101	**Sampling Method:**	3" Stainless-Steel Split Spoon
Logged By:	Kathryn Pritchett	**Depth Drilled:**	9.9 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	Not Encountered
Driller:	Clint Nelson	**Date Measured:**	NA
Date Drilled:	04/30/96	**Surface Elevation:**	3675.00 FT.
Drilling Method:	Hollow-Stem Auger		

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)			
					Asphalt.				
		75			Sand, some silt, some gravel (up to pebble size), very fine-to coarse-grained sand, moist, brown to dark brown (10 YR 4/3), gravels.	0			
5	1 2 3 2	100			Sand, little silt, little gravel, yellowish brown (10 YR 5/4), granule to pebble size gravel, wet, soft.	58			
					Bedrock encountered.				
	74 100/0.4'	80			Sandstone, brownish yellow (10 YR 6/6), dry, some silt, very fine-to medium-grained sand.	92			
10					Total Depth: 9.9 FT. BLS.				
15									

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LOG OF BORING 6-MW2

Project No.:	8056-101	**Sampling Method:**	Rock cuttings from Air Rotary
Logged By:	Kathryn Pritchett	**Depth Drilled:**	62.2 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	44.0 FT.
Driller:	Mike Downey	**Date Measured:**	04/30/96
Date Drilled:	04/24/96	**Surface Elevation:**	3676.16 FT.
Drilling Method:	Air Rotary-Hammer	**TOC Elevation:**	3675.86 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Asphalt.					
					Silt, some sand.					
5					Weathered Sandstone, some silt, very fine-to medium-grained, sandstone, brownish yellow (10 YR 6/6).					
					Sandstone/Siltstone, very fine-grained sand, pale brown to pink (10 YR 7/4 to 7.5 YR 7/4), dry.					
10					Weathered Sandstone, brownish yellow (10 YR 6/6), little to some silt, dry.	0				
15					Weathered Sandstone/Siltstone, very pale brown-pink, (10 YR 7/4 to 7.5 YR 7/4), very fine-to medium-grained sand.	0				
20					Sandstone, fine-to medium-grained, light brown, sorted, no hydrocarbon odor, slightly moist.	0				
25					Sandstone, fine-grained, light brown (10 YR 6/4), sorted, no hydrocarbon odor, slightly moist.					
30					Sandstone, fine-grained sandstone, reddish brown, moist at 34 FT.					
35					Sandstone, reddish brown (10 YR 7/4), moist, yellowish brown sandstone, fine-grained, moist, no hydrocarbon odor.					

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LOG OF BORING 6-MW2

Project No.:	8056-101	Sampling Method:	Rock cuttings from Air Rotary
Logged By:	Kathryn Pritchett	Depth Drilled:	62.2 FT.
Drilling Co.:	O'Keefe Drilling	Depth To Water:	44.0 FT.
Driller:	Mike Downey	Date Measured:	04/30/96
Date Drilled:	04/24/96	Surface Elevation:	3676.16 FT.
Drilling Method:	Air Rotary-Hammer	TOC Elevation:	3675.86 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Sand, interbedded yellowish brown and reddish brown fine-grained sand, sorted, no hydrocarbon odor, moisture-possibly water at 44 FT.					
45					Sandstone, reddish brown, same as above, moist.					
50					Same as above.					
					Sandstone, very fine-to fine-grained, no hydrocarbon odor, dark gray, (10 YR 4/1).					
55					Sandstone, dark grey (10 YR 4/1), very fine-to fine-grained, no odor, not moist.					
60										
					Total Depth: 62.2 FT. BLS.					
65										
70										
75										

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LOG OF BORING 6-MW3

Project No.:	8056-101	**Sampling Method:**	Rock cuttings from Air Rotary
Logged By:	Kathryn Pritchett	**Depth Drilled:**	65.0 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	43.0 FT. BLS
Driller:	Mike Downey	**Date Measured:**	04/30/96
Date Drilled:	04/29/96	**Surface Elevation:**	3676.60 FT.
Drilling Method:	Air Rotary-Hammer	**TOC Elevation:**	3676.32 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
0					Silt, some sand, dark yellowish brown (10 YR 4/4), moist.	0				
4					Weathered Sandstone, some silt, yellowish brown (10 YR 5/4), fine-grained sandstone, very fine-to medium-grained sand, well-sorted to moderately sorted, dry.	0.5				
5					Sandstone/Siltstone, pink (7.5 YR 7/4).	107				
					Sandstone, yellowish brown (10 YR 5/6), some silt, fine-grained sand to some medium-grained sand, dry.	69				
10										
15					Siltstone, interbedded shaley siltstone.	282				
					Sandstone, very fine-to fine-grained, some silt, very pale brown (10 YR 7/4), well-sorted. Sandstone, light brown, fine-grained, sorted, very little silt.	8				
20										
25					Siltstone, fine grained, light brown (10 YR 6/4), sandstone, silty with layers of medium-grained sandstone, light brown, medium-grained sandstone from 27 FT. to 30.0 ft.					
30					Sand, fine-to very fine-grained, thinly bedded, no hydrocarbon odor.					
35					Silty Sandstone, fine-grained, light brown (10 YR 6/4), thinly bedded, no hydrocarbon odor.					

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LOG OF BORING 6-MW3

Project No.:	8056-101	Sampling Method:	Rock cuttings from Air Rotary
Logged By:	Kathryn Pritchett	Depth Drilled:	65.0 FT.
Drilling Co.:	O'Keefe Drilling	Depth To Water:	43.0 FT. BLS
Driller:	Mike Downey	Date Measured:	04/30/96
Date Drilled:	04/29/96	Surface Elevation:	3676.60 FT.
Drilling Method:	Air Rotary-Hammer	TOC Elevation:	3676.32 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Sandstone, fine-grained, slightly silty, moist at 43.0 FT., red color (10 YR 7/4).					
45					Sandstone, fine-grained, slightly silty, thinly laminated, no hydrocarbon odor, slightly moist, red color.					
50					Sandstone, fine, slightly silty, from 53.0 ft. change color to yellowish brown, moist, at 54.0 ft. had 2 inches dark grey (10 YR 4/1), coarse-grained sandstone.					
55					Sandstone, top 1 FT. light grey (10 YR 4/1), very fine-to fine-grained, 57.0 FT. dark grey sandstone, thinly bedded, no hydrocarbon odor.					
60					Sandstone, fine-grained, dark grey (10 YR 4/1), no hydrocarbon odor.					
65					Total Depth: 65.0 FT. BLS.					
70										
75										

MONTANA ANG GREAT FALLS, MONTANA	**OPTECH** OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING 7-MW2

Project No.:	8056-101	**Sampling Method:**	Rock cuttings from Air Rotary
Logged By:	M. Ghazizadeh	**Depth Drilled:**	70.8 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	45.0 FT.
Driller:	Mike Downey	**Date Measured:**	05/01/96
Date Drilled:	04/28/96	**Surface Elevation:**	3676.53 FT.
Drilling Method:	Hollow-Stem Auger (Surface Drilling)	**TOC Elevation:**	3676.21 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Asphalt.	0				
					Silt, little to some clay, trace gravel (up to pebble size), greyish brown (10 YR 5/2), moist.					
5					Top with weathered Bedrock, fine-grained sandstone, some silt, brownish yellow (10 YR 6/6), dry, no odor, very fine-to medium-grained sand.	0 2 0				
					Sandstone/Siltstone, very fine-grained, dry, pink (10 YR 7/4), no odor.	0 6.9				
10					Sandstone, fine-grained sand, some silt, yellowish brown (10 YR 5/4).	27 30				
15					Siltstone, thinly bedded.	8				
					Siltstone, with interbedded shale, wet silt as pull augers at 20 FT.	0				
20					Sandstone, fine-grained, some silt, pink (7.5 YR 7/4) to brownish yellow (10 YR 6/6).					
25					Sandstone/Siltstone, very fine-grained sand, well sorted, dry, very pale brown (10 YR 7/4).					
30					Same as above.					
35					Same as above.					

MONTANA ANG GREAT FALLS, MONTANA	OPTECH OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING 7-MW2

Project No.:	8056-101	**Sampling Method:**	Rock cuttings from Air Rotary
Logged By:	M. Ghazizadeh	**Depth Drilled:**	70.8 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	45.0 FT.
Driller:	Mike Downey	**Date Measured:**	05/01/96
Date Drilled:	04/28/96	**Surface Elevation:**	3676.53 FT.
Drilling Method:	Hollow-Stem Auger (Surface Drilling)	**TOC Elevation:**	3676.21 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Same as above.					
45					Sandstone, very fine-to medium-grained sand, some silt, yellowish brown (10 YR 6/6), well sorted, slight moist, slight hydrocarbon odor.					
50					Same as above.					
55					Same as above, yellowish brown (10 YR 5/4). Sandstone, grey (10 YR 5/1), well sorted, some silt, very fine-grained sand, dry.					
60					Same as above, dry.					
65					Same as above, slightly moist.					
70					Total Depth: 70.8 FT. BLS					
75										

MONTANA ANG GREAT FALLS, MONTANA	OPTECH OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING 7-MW3

Project No.:	8056-101	**Sampling Method:**	Rock cuttings from Air Rotary
Logged By:	M. Ghazizadeh	**Depth Drilled:**	70.0 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	-
Driller:	Mike Downey	**Date Measured:**	-
Date Drilled:	05/01/96	**Surface Elevation:**	3667.31 FT.
Drilling Method:	Air Rotary-Hammer	**TOC Elevation:**	3667.82 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Sandstone, red, silty, fine-grained, slightly moist, no hydrocarbon odor.	0				
5					Sandstone, light brown, fine-grained, slightly moist, yellowish brown.	0				
10					Sandstone, light brown, very fine-to fine-grained, moist, yellowish brown, no hydrocarbon odor.	0				
15					Sandstone, 15.5 ft. reddish brown, very fine-grained, slightly moist, no hydrocarbon odor. Sand, light brownish tan, very fine-grained, no hydrocarbon odor.	0				
20					Same as above.	0				
25					Same as above.	0				
30					Sandstone, reddish brown, very fine-to fine-grained, slightly moist, (10 YR 7/4), no hydrocarbon odor.	0				
35					Sandstone, reddish brown, very fine-to fine-grained, slightly moist, no hydrocarbon odor.	0				

MONTANA ANG GREAT FALLS, MONTANA	OPTECH OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING 7-MW3

Project No.:	8056-101	**Sampling Method:**	Rock cuttings from Air Rotary
Logged By:	M. Ghazizadeh	**Depth Drilled:**	70.0 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	-
Driller:	Mike Downey	**Date Measured:**	-
Date Drilled:	05/01/96	**Surface Elevation:**	3667.31 FT.
Drilling Method:	Air Rotary-Hammer	**TOC Elevation:**	3667.82 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Sandstone, reddish brown, very fine-to fine-grained, moisture content increases slightly at 45 ft.	0				
45					Sandstone, reddish brown, moist, very fine-to fine-grained, possibly water at 46 ft.	0				
50					Sandstone, at 53 ft. changes to light brown color, very fine-to fine-grained, no hydrocarbon odor.	0				
55					Sandstone, changes to light gray color at 54 ft., very fine-grained, no hydrocarbon odor, dry, (10 YR 4/1). Sandstone, light gray. Sandstone, dark gray, very fine-to fine-grained, dry, no hydrocarbon odor.	0				
60						0				
65					Sandstone, dark gray, very fine-to fine-grained, (10 YR 4/1).	0				
70					Total Depth: 70 FT. BLS.					
75										

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LOG OF BORING 7-MW4

Project No.:	8056-101	**Sampling Method:**	Rock cuttings from Air Rotary
Logged By:	Kathryn Pritchett	**Depth Drilled:**	71.0 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	
Driller:	Mike Downey	**Date Measured:**	
Date Drilled:	04/28/96	**Surface Elevation:**	3676.29 FT.
Drilling Method:	Hollow-Stem Auger (Surface Drilling)	**TOC Elevation:**	3675.98 FT.

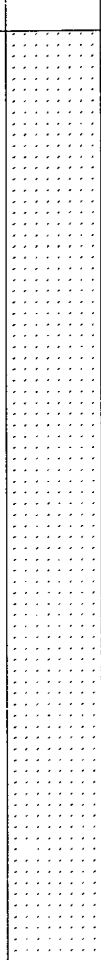
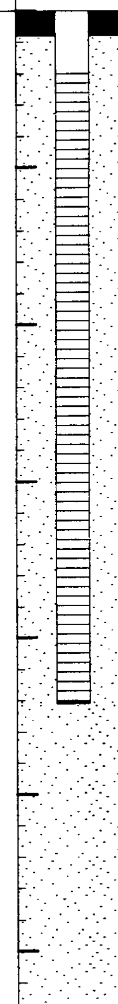
Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Asphalt.	0				
					Silt, little clay, little sand, trace gravel, dark grey (10 YR 4/1), moist, no odor.					
5					Weathered Sandstone, fine-grained sand, yellowish brown (10 YR 5/6), some silt, little to some gravel (cobbles-weathered sandstone, very fine-to medium-grained sand).	0				
10					Collected GC sample.	1.2 70				
15						69 130				
					Siltstone interbedded shale, yellowish brown (10 YR 5/6) at 17 FT., granule to pebble size interbedded, weathered sandstone/siltstone, yellowish brown (10 YR 5/6) at 18 FT.					
20						3.4				
					Weathered Sandstone/Siltstone, very fine-grained sandstone, yellowish brown (10 YR 5/6).					
25					Weathered Sandstone, fine-grained to medium-grained, light brown, fine to medium-grained, sorted, no hydrocarbon odor, slightly moist, slightly silty.					
					Sandstone, light brown (10 YR 6/4), fine-grained, sorted, slightly moist, no hydrocarbon odor, slightly silty.					
30					Sandstone, light red to light brown (10 Yr 7/4), fine-grained, silty, no hydrocarbon odor, slightly moist,.					
35					Sandstone, red, fine-grained, no hydrocarbon odor, silty, slightly moist.					

MONTANA ANG GREAT FALLS, MONTANA	OPTECH OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING 7-MW4

Project No.:	8056-101	**Sampling Method:**	Rock cuttings from Air Rotary
Logged By:	Kathryn Pritchett	**Depth Drilled:**	71.0 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	
Driller:	Mike Downey	**Date Measured:**	
Date Drilled:	04/28/96	**Surface Elevation:**	3676.29 FT.
Drilling Method:	Hollow-Stem Auger (Surface Drilling)	**TOC Elevation:**	3675.98 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Sandstone, red, fine-grained, thinly bedded, silty, slightly moist, no hydrocarbon odor.					
45					Sandstone, red, very fine-to fine-grained, slightly moist, no hydrocarbon odor, (10 YR 7/4).					
50					Sandstone, red, very fine-to fine-grained sand, slightly moist, no hydrocarbon odor, (10 YR 7/4), slight odor at 53-54 ft., 54 ft. change to light grey color (10 YR 4/1) , fine-grained sandstone.					
55					Sandstone, light grey, very fine-to fine-grained, thinly-bedded clay, no hydrocarbon odor, sandstone becoming slightly darker at 58 ft.					
60					Sandstone, dark grey (10 YR 4/1), very fine-to fine-grained, no hydrocarbon odor, not moist.					
65					Sandstone, dark grey, very fine-to fine-grained, (10 YR 4/1), no hydrocarbon odor, not moist.					
70					Total Depth: 71.0 FT. BLS.					
75										

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LOG OF BORING 7-MW5

Project No.:	8056-101	Sampling Method:	Rock cuttings from Air Rotary
Logged By:	Kathryn Pritchett	Depth Drilled:	82.0 FT.
Drilling Co.:	O'Keefe Drilling	Depth To Water:	52.0 FT. BLS
Driller:	Mike Downey	Date Measured:	04/29/96
Date Drilled:	04/28/96	Surface Elevation:	3675.81 FT.
Drilling Method:	Hollow-Stem Auger	TOC Elevation:	3675.55 FT. BLS

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Asphalt.	0				
					Silt, little to some sand, very fine-to coarse-grained sand, brownish yellow (10 YR 6/6), little gravel (pebble size), dry.					
5					Weathered Bedrock, (sandstone/siltstone).					
					Silt, little to some sand, dry, light yellowish brown (10 YR 6/4), very fine-to medium grained sand, weathered, sandstone/siltstone, very fine-grained.	0				
10						120 30				
					Weathered Sandstone, very fine-grained, sand, very fine-to coarse-grained sand, some silt, pebbles and cobbles in cuttings, sandstone, light yellowish brown (10 YR 6/6), dry, brownish yellow.					
15						40				
					Siltstone, thinly-bedded, shaley siltstone, balls break up like silt.	5 50				
					Clay, brown (10 YR 5/3), balls, moist, wet.	53				
20					Sandstone, very fine-grained.					
25					Sandstone, some silt, light yellowish brown (10 YR 6/4), very fine-grained sandstone, very fine-to medium grained sand, dry, well-sorted.					
30					Same as above.					
35					Sandstone/Siltstone, very pale brown to pink, (10 YR 7/4-7.5 YR 7/4), very fine-grained sand, dry.					
40					Sandstone, some silt, light yellowish brown, (10 YR 6/4), very fine-grained sand, slight moist, well sorted.					

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LOG OF BORING 7-MW5

Project No.:	8056-101	**Sampling Method:**	Rock cuttings from Air Rotary
Logged By:	Kathryn Pritchett	**Depth Drilled:**	82.0 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	52.0 FT. BLS
Driller:	Mike Downey	**Date Measured:**	04/29/96
Date Drilled:	04/28/96	**Surface Elevation:**	3675.81 FT.
Drilling Method:	Hollow-Stem Auger	**TOC Elevation:**	3675.55 FT. BLS

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Same as above, slight odor.					
50										
					Sandstone, some silt, dark grey (10 YR 4/1), moist, very fine-grained sand, well sorted.					
55										
60					Same as above, dark grey, (10 YR 4/1), dry.					
65					Shaley Sandstone, silt, grey (10 YR 4/1), well sorted, dry, very fine-grained sand.					
70					Same as above.					
75					Same as 65-70 ft. interval, dry.					
80					Same as above, dry.					
					Total Depth: 82.0 FT. BLS.					
85										

MONTANA ANG

GREAT FALLS, MONTANA

OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING 8-MW2

Project No.:	**8056-101**	**Sampling Method:**	**Rock cuttings from Air Rotary**
Logged By:	**Kathryn Pritchett**	**Depth Drilled:**	**65.0 FT.**
Drilling Co.:	**O'Keefe Drilling**	**Depth To Water:**	**45.0 FT.**
Driller:	**Mike Downey**	**Date Measured:**	**05/02/96**
Date Drilled:	**05/02/96**	**Surface Elevation:**	**3675.90 FT.**
Drilling Method:	**Air Rotary-Hammer**	**TOC Elevation:**	**3675.64 FT.**

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
5										
10					Sandstone, some silt, yellowish brown (10 YR 5/6), moist, very fine-to medium-grained sand, well-sorted.					
15					Sandstone/Siltstone, brownish yellow (10 YR 6/6), dry, very fine-to fine-grained sand, well sorted.					
20					Same as above.					
25					Same as above, moist.					
30					Same as above.					
35					Same as above.					

MONTANA ANG GREAT FALLS, MONTANA	OPTECH OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING 8-MW2

Project No.:	8056-101	Sampling Method:	Rock cuttings from Air Rotary
Logged By:	Kathryn Pritchett	Depth Drilled:	65.0 FT.
Drilling Co.:	O'Keefe Drilling	Depth To Water:	45.0 FT.
Driller:	Mike Downey	Date Measured:	05/02/96
Date Drilled:	05/02/96	Surface Elevation:	3675.90 FT.
Drilling Method:	Air Rotary-Hammer	TOC Elevation:	3675.64 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Same as above.					
45					Sandstone, light yellowish brown (10 YR 6/4), some silt, very fine-to fine-grained sand, well-sorted, moist.					
50					Same as above.					
55					Same as above, brown (10 YR 5/3). Shaley Sandstone, grey (10 YR 5/1), some silt, dry, well-sorted, very fine-to fine-grained sand.					
60					Same as above.					
					Same as above, dark grey (10 YR 4/1), very dark grey (10 YR 3/1).					
65					Same as above, grey (10 YR 5/1).					
					Total Depth: 65.0 FT. BLS.					
70										
75										

MONTANA ANG GREAT FALLS, MONTANA	OPTECH OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING 8-MW3

Project No.:	8056-101	**Sampling Method:**	Rock cuttings from Air Rotary
Logged By:	Kathryn Pritchett	**Depth Drilled:**	65.0 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	50.0 FT.
Driller:	Mike Downey	**Date Measured:**	05/02/96
Date Drilled:	04/28/96	**Surface Elevation:**	3675.96 FT.
Drilling Method:	Air Rotary-Hammer	**TOC Elevation:**	3675.66 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
0					Asphalt.					
5					Sandstone, some silt, very fine-to coarse-grained sand, moderately to well-sorted, moist, brownish yellow (10 YR 6/6).					
10					Sandstone, some silt, very fine-to medium-grained, brownish yellow (10 YR 6/6), slightly moist, well-sorted.					
15										
20					Sandstone/Siltstone, very fine-grained sand, dry, very pale brown (10 YR 7/4).					
25					Sandstone, some silt, very fine-to fine-grained sand, moist, well-sorted.					
30					Same as above.					
35					Same as above.					

MONTANA ANG

GREAT FALLS, MONTANA

OPTECH

OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING 8-MW3

Project No.:	8056-101	**Sampling Method:**	Rock cuttings from Air Rotary
Logged By:	Kathryn Pritchett	**Depth Drilled:**	65.0 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	50.0 FT.
Driller:	Mike Downey	**Date Measured:**	05/02/96
Date Drilled:	04/28/96	**Surface Elevation:**	3675.96 FT.
Drilling Method:	Air Rotary-Hammer	**TOC Elevation:**	3675.66 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
45					Same as above, yellowish brown (10 YR 5/4). Same as above, brown (7.5 YR 5/4).					
50					Sandstone, some silt, very fine-to fine-grained sand, moist, yellowish brown (10 YR 5/4).					
55					Same as above. Shaley Sandstone, some silt, very fine-to fine-grained sand, grey (10 YR 5/1), dry.					
60					Same as above.					
65					Same as above. Total Depth: 65.0 FT. BLS.					
70										
75										

MONTANA ANG
GREAT FALLS, MONTANA

OPTECH
OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING 8-MW4

Project No.:	8056-101	**Sampling Method:**	Rock cuttings from Air Rotary
Logged By:	Kathryn Pritchett	**Depth Drilled:**	65.0 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	40.0 FT.
Driller:	Mike Downey	**Date Measured:**	05/02/96
Date Drilled:	05/02/96	**Surface Elevation:**	3674.98 FT.
Drilling Method:	Air Rotary-Hammer	**TOC Elevation:**	3674.68 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Same as above.					
45										
50					Same as above, yellowish brown (10 YR 5/4).					
55					Same as above, yellowish brown (10 YR 5/6).					
					Shaley Sandstone, grey (10 YR 5/1), very fine-to fine-grained sand, dry, well-sorted.					
60					Same as above.					
65					Same as above.					
					Total Depth: 65.0 FT. BLS.					
70										
75										

MONTANA ANG

GREAT FALLS, MONTANA

OPTECH

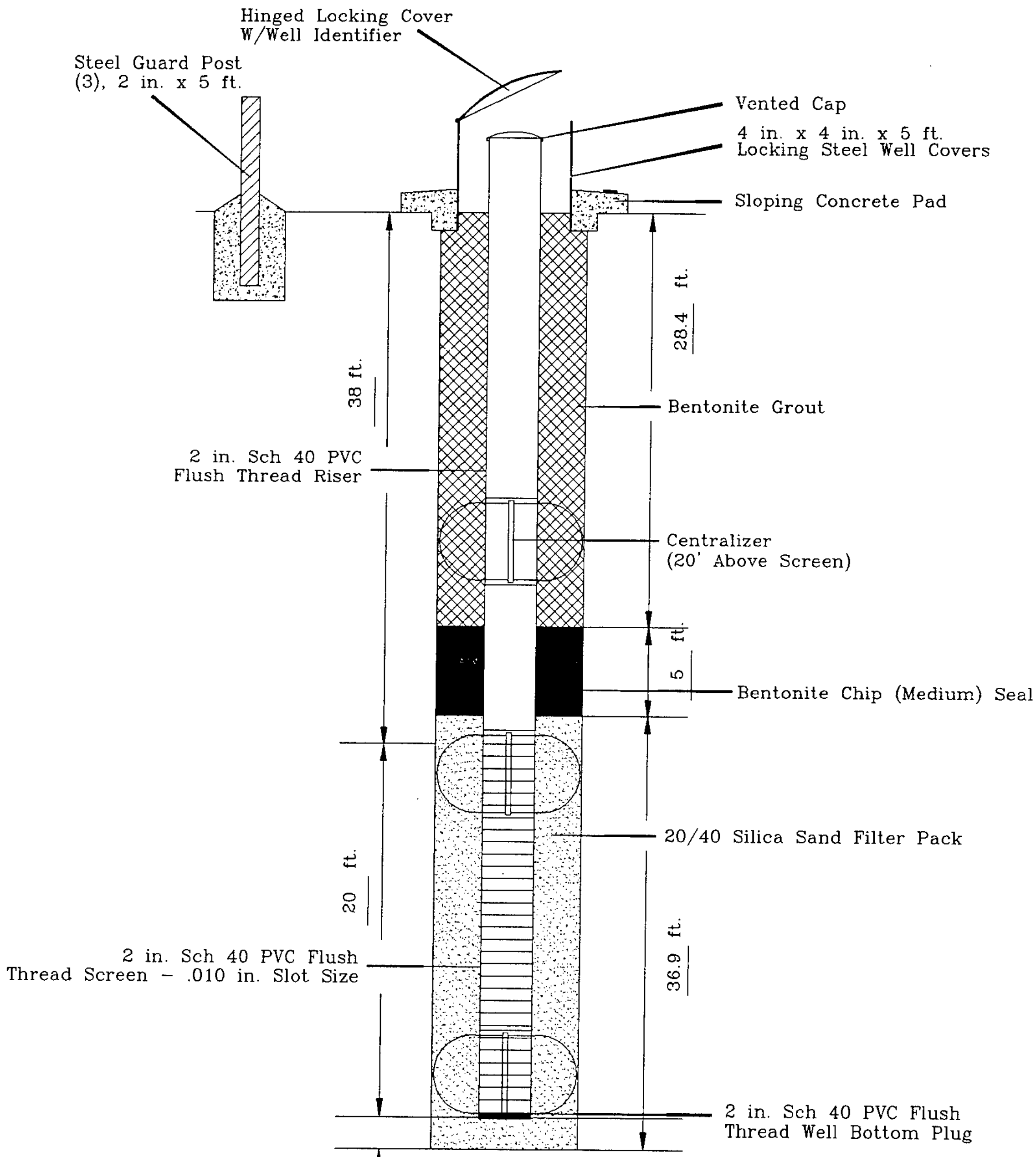
OPERATIONAL TECHNOLOGIES CORPORATION

LOG OF BORING 8-MW4

Project No.:	8056-101	**Sampling Method:**	Rock cuttings from Air Rotary
Logged By:	Kathryn Pritchett	**Depth Drilled:**	65.0 FT.
Drilling Co.:	O'Keefe Drilling	**Depth To Water:**	40.0 FT.
Driller:	Mike Downey	**Date Measured:**	05/02/96
Date Drilled:	05/02/96	**Surface Elevation:**	3674.98 FT.
Drilling Method:	Air Rotary-Hammer	**TOC Elevation:**	3674.68 FT.

Depth (ft.)	Blows/6"	% Recovery	Samples	Graphic	DESCRIPTION OF MATERIALS	FIELD SCREENING PID (ppm)				Monitoring Well
					Asphalt.					
5					Sandstone, some silt, very fine-to fine-grained sand, brownish yellow (10 YR 6/6), well-sorted.					
10					Same as above, moist.					
15					Same as above.					
20					Same as above.					
25					Same as above.					
30					Sandstone/Siltstone, very fine-to fine-grained sand, moist, very pale brown (10 YR 7/4), well-sorted.					
35					Sandstone, some silt, light yellowish brown (10 YR 6/4), very fine-to fine-grained sand, moist, well-sorted.					

Project:	Montana ANG	Date Installed:	8 May 1996
Town/City:	Great Falls	Drilling Contractor:	O' Keefe Drilling
County:	Cascade State: Montana	Drilling Method:	Air Rotary
TOC Elev:	3,652.69	Borehole Diameter:	6"
Ground Elev.:	3,550.91	Development Technique:	Bailer
Water Level:	44.16 TOC		
Total Well Depth:	58.3' BLS		Not To Scale



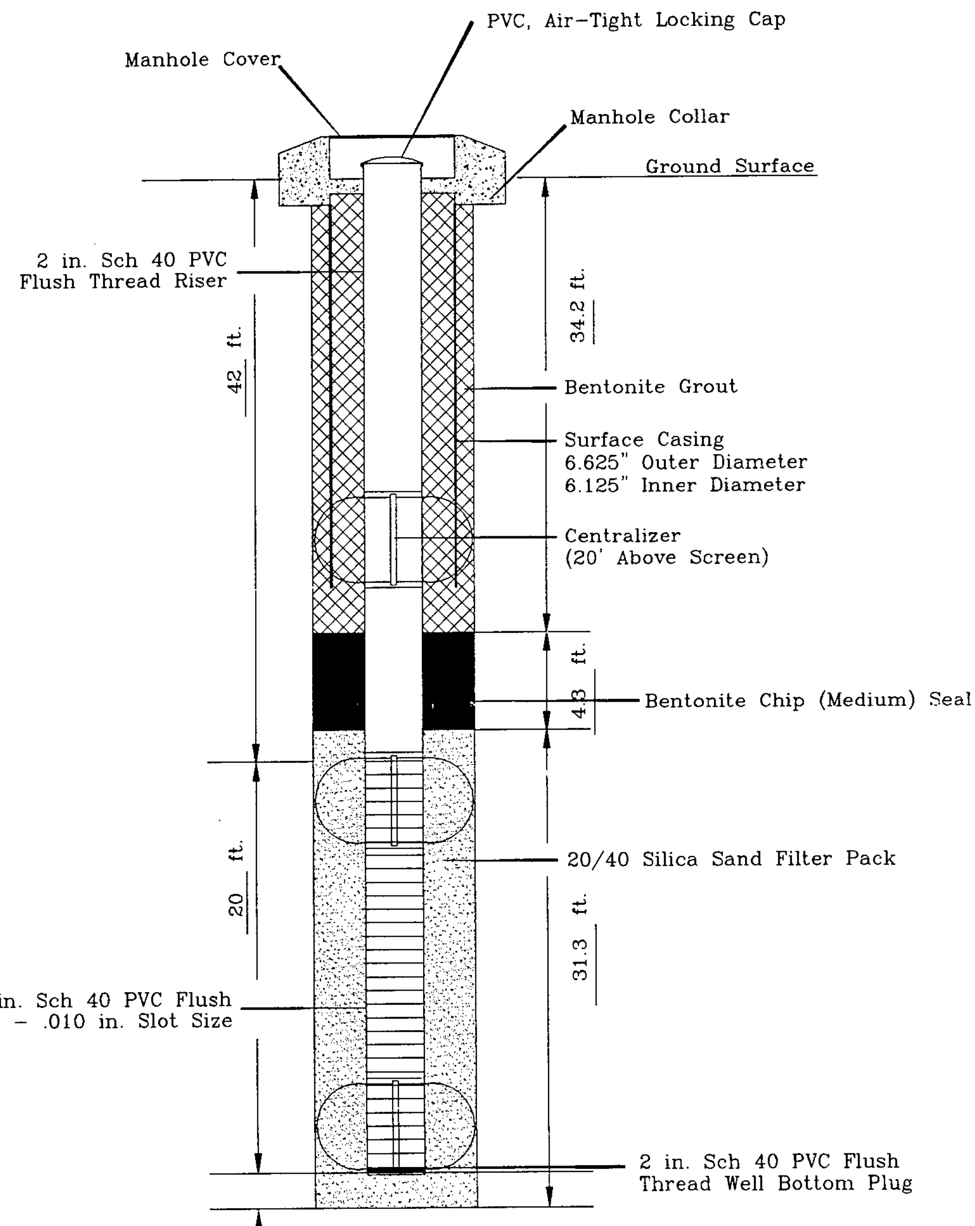
MONITORING WELL CONSTRUCTION LOG

WELL NO. 1-MW2

OPTECH
OPERATIONAL TECHNOLOGIES CORPORATION

AUGUST 1996 G-FALLS\MONLOG3

Project:	Montana ANG	Date Installed:	7 May 1996
Town/City:	Great Falls	Drilling Contractor:	O' Keefe Drilling
County:	Cascade State: Montana	Drilling Method:	Air Rotary
TOC Elev:	3,676.21	Borehole Diameter:	6"
Ground Elev.:	3,676.53	Development Technique:	Bailer
Water Level:	54.86 TOC		
Total Well Depth:	62.3' BLS		Not To Scale

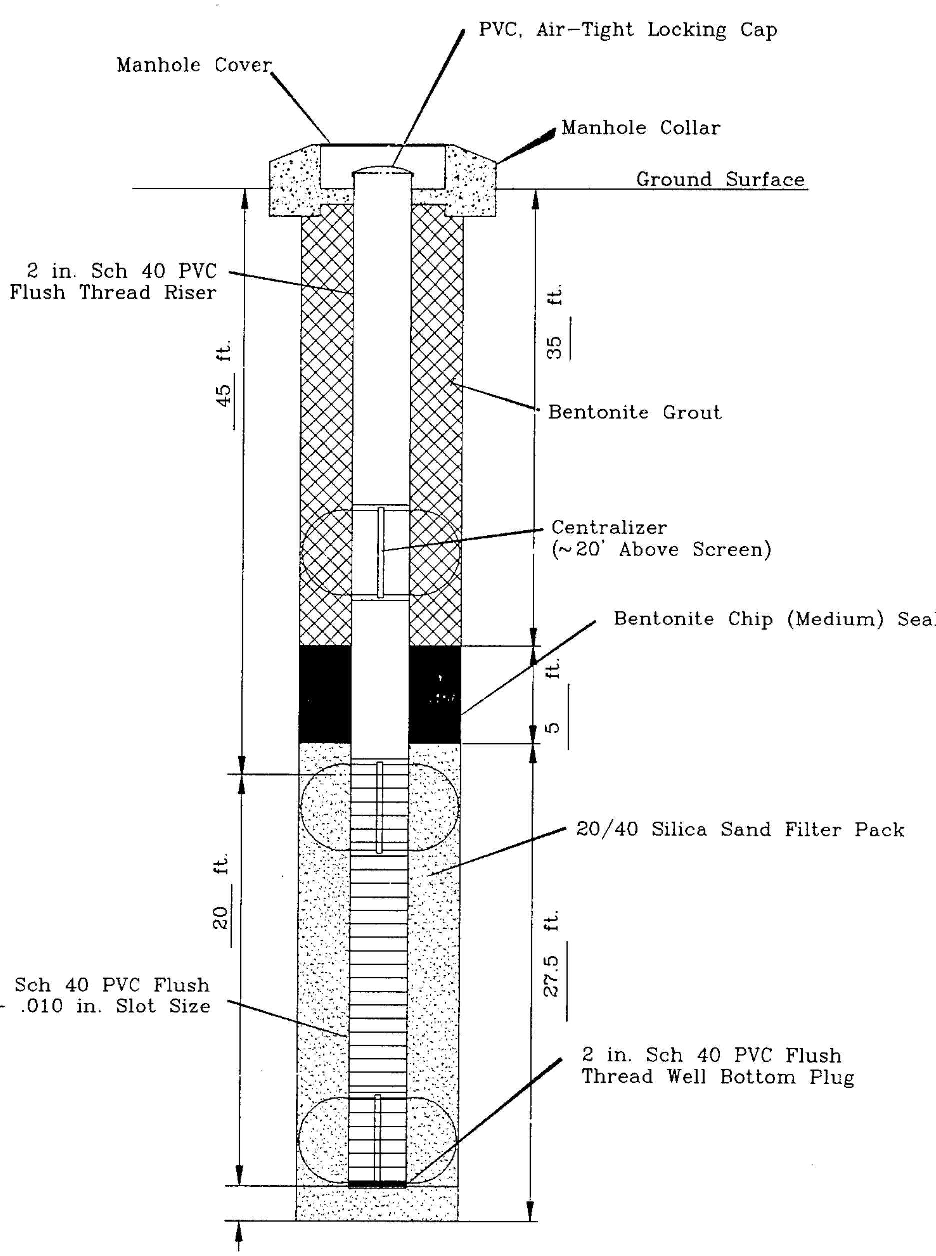


MONITORING WELL
CONSTRUCTION LOG
WELL NO. 7-MW2

OPTECH
OPERATIONAL TECHNOLOGIES CORPORATION

JUNE 1996 G-FALLS\MONLOG2

Project: Montana ANG	Date Installed: 8 May 1996
Town/City: Great Falls	Drilling Contractor: O' Keefe Drilling
County: Cascade State: Montana	Drilling Method: Air Rotary
TOC Elev: 3,667.82	Borehole Diameter: 6"
Pavement Elev.: 3,667.31	Development Technique: Bailer
Water Level: 50.12 TOC	
Total Well Depth: 65.3' BLS	Not To Scale

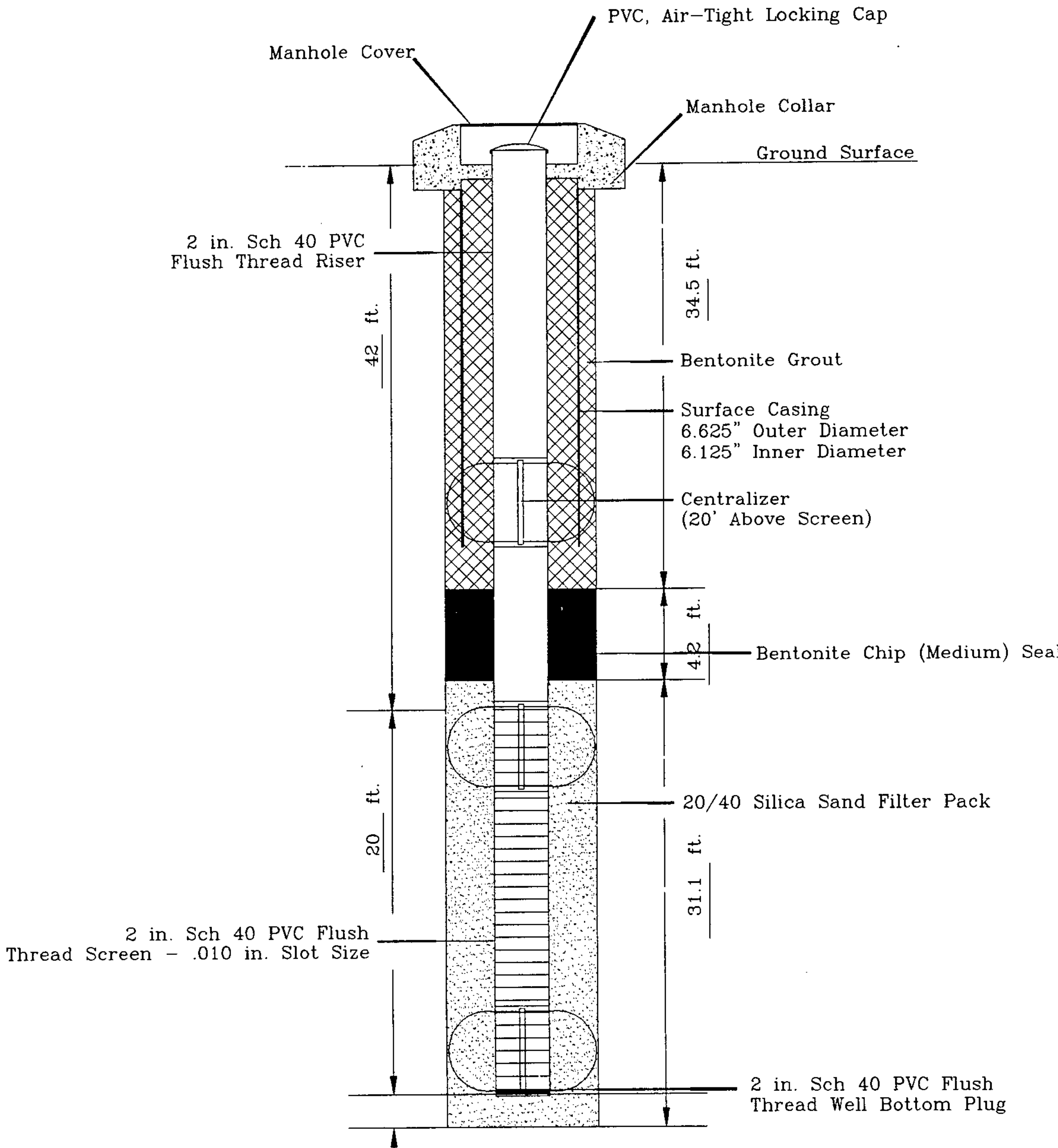


MONITORING WELL CONSTRUCTION LOG WELL NO. 7-MW3

OPTECH
OPERATIONAL TECHNOLOGIES CORPORATION

JUNE 1996 G-FALLS\MONLOG

Project:	Montana ANG	Date Installed:	7 May 1996
Town/City:	Great Falls	Drilling Contractor:	O' Keefe Drilling
County:	Cascade State: Montana	Drilling Method:	Air Rotary
TOC Elev:	3,675.98	Borehole Diameter:	6"
Ground Elev.:	3,676.29	Development Technique:	Bailer
Water Level:	58.08 TOC		
Total Well Depth:	62.3' BLS		Not To Scale

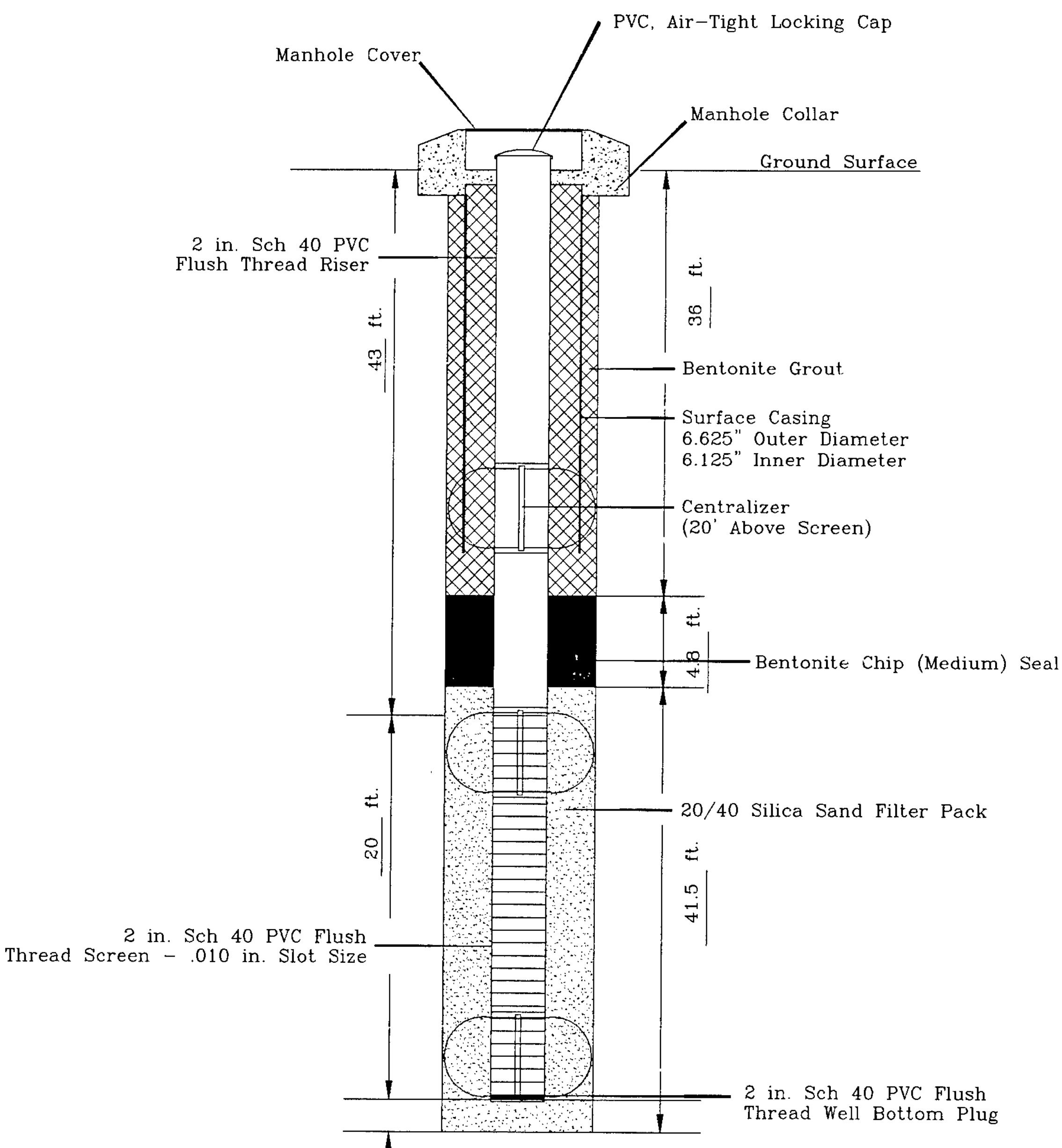


MONITORING WELL CONSTRUCTION LOG WELL NO. 7-MW4

OPTECH
OPERATIONAL TECHNOLOGIES CORPORATION

JUNE 1996 G-FALLS\MONLOG2

Project:	Montana ANG	Date Installed:	1 May 1996
Town/City:	Great Falls	Drilling Contractor:	O' Keefe Drilling
County:	Cascade State: Montana	Drilling Method:	Air Rotary
TOC Elev:	3,675.55	Borehole Diameter:	6"
Ground Elev.:	3,675.81	Development Technique:	Bailer
Water Level:	54.64 TOC		
Total Well Depth:	63.3' BLS		Not To Scale

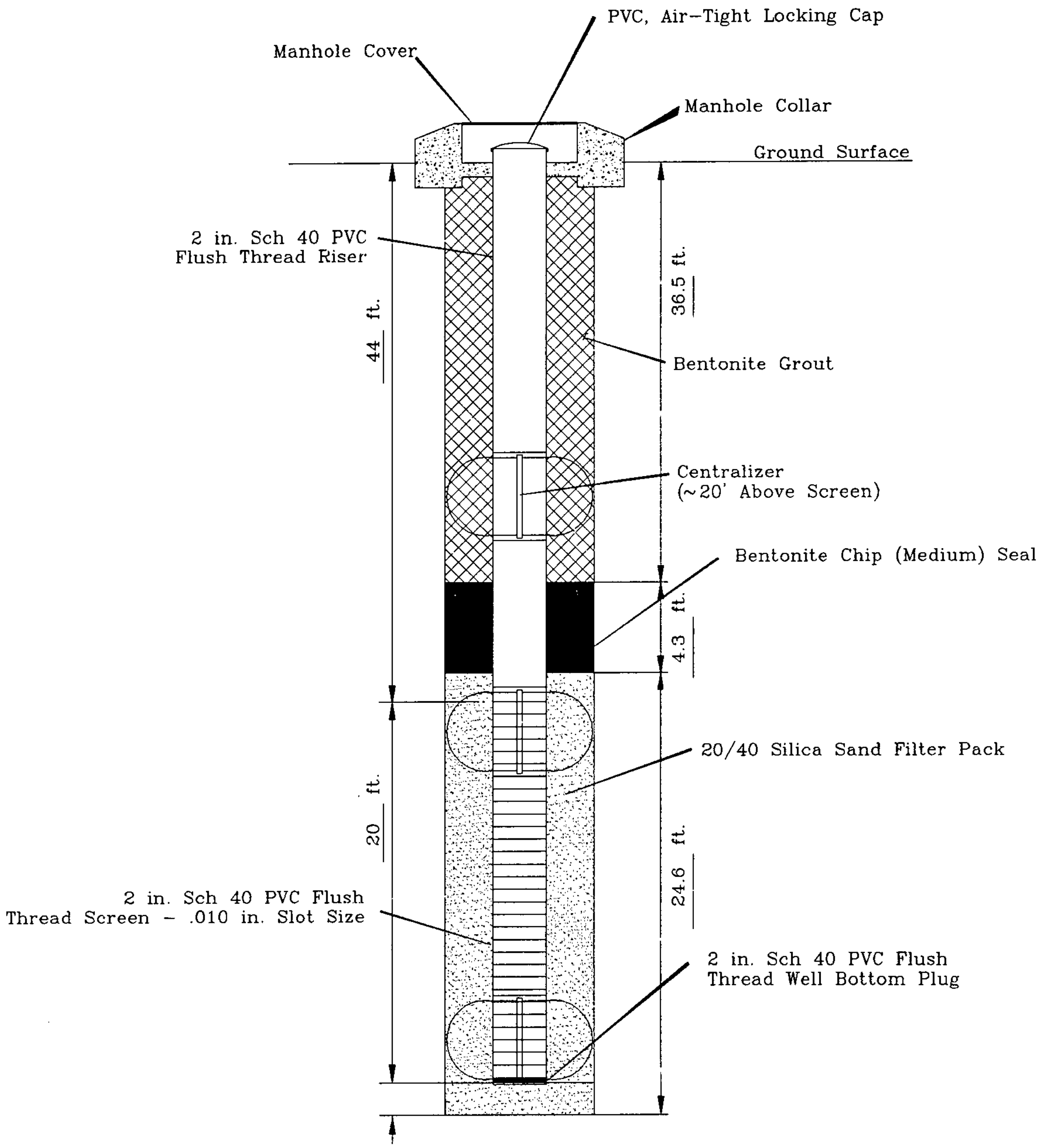


MONITORING WELL CONSTRUCTION LOG
WELL NO. 7-MW5

OPTECH
OPERATIONAL TECHNOLOGIES CORPORATION

JUNE 1996 G-FALLS\MONLOG2

Project: Montana ANG	Date Installed: 8 May 1996
Town/City: Great Falls	Drilling Contractor: O' Keefe Drilling
County: Cascade State: Montana	Drilling Method: Air Rotary
TOC Elev: 3,675.64	Borehole Diameter: 6"
Pavement Elev.: 3,675.90	Development Technique: Bailer
Water Level: 55.28 TOC	
Total Well Depth: 64.3' BLS	Not To Scale

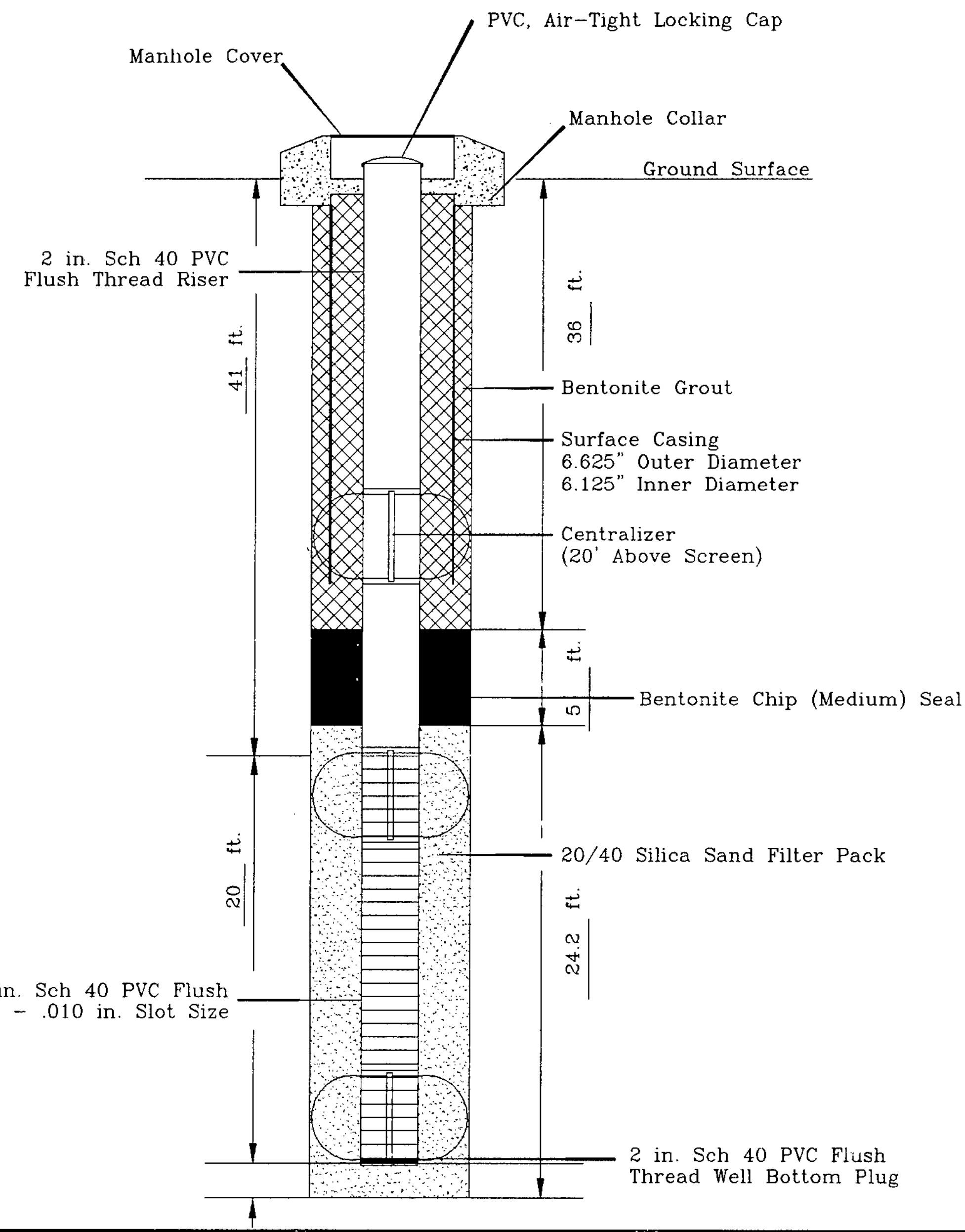


MONITORING WELL
CONSTRUCTION LOG
WELL NO. 8–MW2

OPTECH
OPERATIONAL TECHNOLOGIES CORPORATION

JUNE 1996 G-FALLS\MONLOG

Project:	Montana ANG	Date Installed:	7 May 1996
Town/City:	Great Falls	Drilling Contractor:	O' Keefe Drilling
County:	Cascade State: Montana	Drilling Method:	Air Rotary
TOC Elev:	3,675.86	Borehole Diameter:	6"
Ground Elev.:	3,676.16	Development Technique:	Bailer
Water Level:	55.49 TOC		
Total Well Depth:	61.3' BLS		Not To Scale

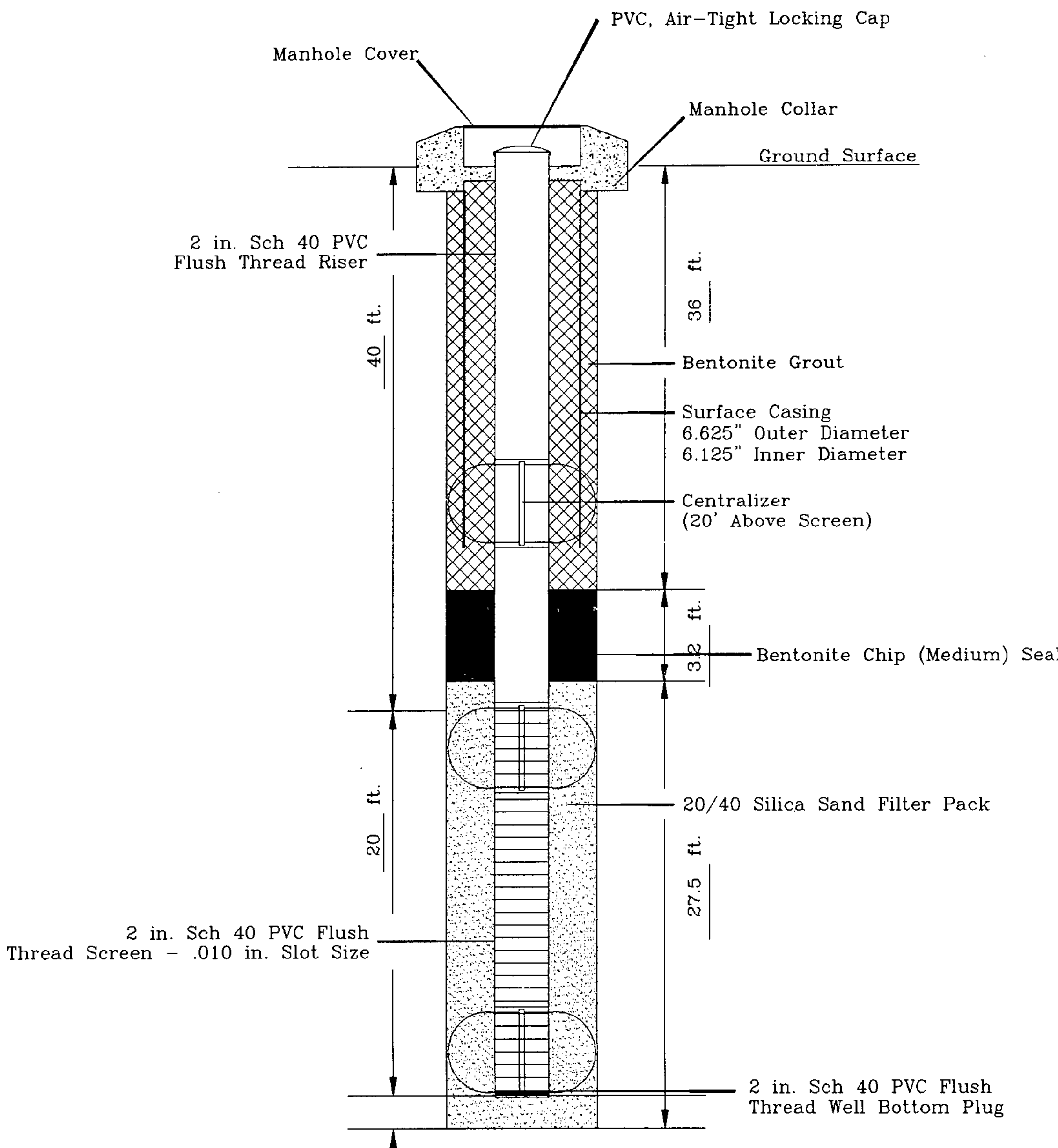


MONITORING WELL CONSTRUCTION LOG
WELL NO. 6-MW2

OPTECH
OPERATIONAL TECHNOLOGIES CORPORATION

JUNE 1996 G-FALLS\MONLOG2

Project:	Montana ANG	Date Installed:	7 May 1996
Town/City:	Great Falls	Drilling Contractor:	O' Keefe Drilling
County:	Cascade State: Montana	Drilling Method:	Air Rotary
TOC Elev:	3,676.32	Borehole Diameter:	6"
Ground Elev.:	3,676.60	Development Technique:	Bailer
Water Level:	52.24 TOC		
Total Well Depth:	60.3' BLS		Not To Scale



MONITORING WELL CONSTRUCTION LOG
WELL NO. 6-MW3

OPTECH
OPERATIONAL TECHNOLOGIES CORPORATION

JUNE 1996 G-FALLS\MONLOG2

APPENDIX C

MONITORING WELL DEVELOPMENT AND PURGING LOGS

OPERATIONAL TECHNOLOGIES
WELL DEVELOPMENT LOG

Monitoring Well: 1-MW 2

Development Start: (Date) 5/11/96 (Time) 1309

Development End : (Date) 5/11/96 (Time) 1600

Developed By : Kathryn Pritchett and Bill Hedberg

PID Reading : (Background) 0 ppm (Reading) 0 ppm

Groundwater : (Water Level) 43.01 btoc/bls (Well Depth) 60.37 btoc/bls

TD_{BH}: 70.6' BLS

Volume of Water in the Well: $V = V_{BH} + V_{well}$

$V_{(gal)}$ = ~~[0.0408] x [Well Diameter$_{(inches)}$]^2 x [Height of Water in Well$_{(feet)}$]~~

V_{BH} = (1.468 gal/ft)(0.4)(27.59 ft) = 16.2 gals

$V_{(gal)}$ = 19 gals

V_{well} = (0.163)(17.36 ft) = 2.8 gals

$V_{(gal)}$ x 3 = 57 gals

Development Method : Bailer

Containment : 1, 105-gal plastic tank

Average Rate of Removal of Water : ~0.5 gal/min. bailer on drill rig

0.2 gal/min bailer by hand

Weather : Sunny - partly cloudy

Comments :

Time	Volume of Water Removed (gallons)	~~Water Level ft BTOC~~ Turbidity	Temp (°C)	pH	Conductivity (uS/cm)	Clarity	Remarks
1309 (initial)	—	7999	11.6	7.46	1,460	Cloudy	
1423	19 gals	7999	12.6	7.50	1,440	sl cloudy	
1450	24 gals	stopped - Clint relocating on site to bail with 2"x5' with drill rig.					
1455	started	development again					
1517	38 gals	7999	11.7	7.52	1,450	cloudy	
1558	57 gals	7999	11.4	7.56	1,460	cloudy	
1600	Stopped	development					

KP

OPERATIONAL TECHNOLOGIES
WELL DEVELOPMENT LOG

Monitoring Well: 6-MW3

Development Start: (Date) 5/9/96 (Time) 1515

Development End : (Date) (Time)

Developed By : OKeefe Drilling Clint Nelson

PID Reading : (Background) 0.1 ppm (Reading) 5.6 ppm

Groundwater : (Water Level) 53.06 btoc/bls (Well Depth) 60.36 btoc/bls

Volume of Water in the Well: M 5/9/96

~~$V_{(gal)}$ = [0.0408] x [Well Diameter$_{(inches)}$]^2 x [Height of Water in Well$_{(feet)}$]~~

$V_{(gal)}$ = $V_{dev.} = V_{BH} + V_{well}$

$V_{BH} = (1.468\ gal/ft)(0.4)$ $V_{well} = (0.163\ gal/ft)(H_{well})$

$V_{(gal)}$ x 3 =

Front of Hanger 25

Development Method : bailer Containment : 1, 100-gal plastic tank

Average Rate of Removal of Water : gal/min.

Weather : Cloudy, snowing

Comments :

V = 8.0 gals X 3 → 24 gals stopped to let recharge 1710

	Time	Volume of Water Removed (gallons)	~~Water Level~~ Turbidity ~~BTOC~~	Temp (°C)	pH	Conductivity (uS/cm)	Clarity	Remarks
initial	1515	—	236	10.5	7.34	726	slightly cloudy	slight odor
	~~30~~ 1525	4 gals	stopped to recharge					
	5/10/96 620	〃	3	11.5	7.14	771	clear	W.L. 52.74' BTOC
	917	8 gals	561	11.4	7.54	754	slightly cloudy	— stopped to recharge
Start again ~~1150~~ 1145	1207	10.5 gals	—	Stopped to recharge				
	1425 1435	12.5 gals	—	Stopped — to recharge				
	1610 – 1630	14.5 gals	—	Stopped to recharge				
start	5/11/96 0745	16.0 gals	—	13.8	7.61	725	cloudy murky	hydrocarbon odor
stopped to recharge	0810	—	stopped to recharge					
start	0935	18.5 gal	stopped to recharge 0945					
start	1010	19.5 gal	stopped to recharge 1020					
start	1110	20.0 gal	stopped to recharge 1115					

OPERATIONAL TECHNOLOGIES
WELL DEVELOPMENT LOG

Monitoring Well: 6-MW3

Development Start: (Date) 5/9/96 (Time)

Development End : (Date) (Time)

Developed By :

PID Reading : (Background) ppm (Reading) ppm

Groundwater : (Water Level) btoc/bls (Well Depth) btoc/bls

Volume of Water in the Well:

$$V_{(gal)} = [0.0408] \times [\text{Well Diameter}_{(inches)}]^2 \times [\text{Height of Water in Well}_{(feet)}]$$

$$V_{(gal)} =$$

$$V_{(gal)} \times 3 =$$

Development Method : Containment :

Average Rate of Removal of Water : gal/min.

Weather :

Comments :

Turbidity

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Temp (°C)	pH	Conductivity (uS/cm)	Clarity	Remarks
start	1530	~~2.5 gal~~	stopped to recharge 1545					
start	1615	22.5 [illegible] 5/11/96 23.0 gal	478	14.0	7.65	712	cloudy to clear	stop 1625 5/11/96

MMG

OPERATIONAL TECHNOLOGIES
WELL DEVELOPMENT LOG

Monitoring Well: 6-mw2

Development Start: (Date) 5/9/96 (Time) 1100

Development End : (Date) (Time)

Developed By : O'Keefe Drilling – Clint Nelson

PID Reading : (Background) 0 ppm (Reading) 8.9 ppm

Groundwater : (Water Level) 56.49 btoc/bls (Well Depth) 61.27 btoc/bls

Volume of Water in the Well: M 5/9/96

~~$V_{(gal)}$ = [0.0408] x [Well Diameter$_{(inches)}$]^2 x [Height of Water in Well$_{(feet)}$]~~

$V_{(gal)}$ = $V_{dev_1} = V_{BH} + V_{well}$ Vwell (0.163 gal/ft)(Hwell)

$V_{(gal)}$ x 3 = V_{BH} (1.468 gal/ft) (10.4) 2" x 5'

Development Method : Bailer (stainless steel) Containment : 1100 ~~55~~ gallon plastic tank

Average Rate of Removal of Water : gal/min.

Weather :

Comments : V = 4.2 gals X → 12.5 gals
stopped to recharge 5/9/96 M 1510

	Time	Volume of Water Removed (gallons)	Turbidity M 5/9/96 ~~Water Level ft BTOC~~	Temp (°C)	pH	Conductivity (uS/cm)	Clarity	Remarks
Initial	1115		872	10.0	7.65	759	Cloudy	
	1125	2.5 stopped to recharge						
	1152	started development						
	1202	3 gal	> 1000	8.9	7.91	860	very cloudy	
		Stopped development to recharge						
	1315	Started – removed ~ 0.5 gals						
	1330		Stopped to recharge					
Started 1545	1549	4 gals	7999	9.6	7.70	830	cloudy	Stopped to recharge
5/10/96 Started 744	747	initial for the day	429	11.5	7.87	834	slightly cloudy	- clear
	756	6 gals – stopped to recharge						
Start ~~1407~~	1438	8.5 gals	7999	11.5	7.91	890	cloudy	
1419 start	START 0816	10.5 gals	—	10.6	7.45	836	cloudy murky	hydrocarbon odor

stopped 0840 for recharge

OPERATIONAL TECHNOLOGIES
WELL DEVELOPMENT LOG

Monitoring Well: 6 MW2 cont.

Development Start: (Date) 5/9/96 (Time)

Development End : (Date) (Time)

Developed By : O'Keefe Drilling Clint Nelson

PID Reading : (Background) ppm (Reading) ppm

Groundwater : (Water Level) btoc/bls (Well Depth) btoc/bls

Volume of Water in the Well:

$V_{(gal)} = [0.0408] \times [\text{Well Diameter}_{(inches)}]^2 \times [\text{Height of Water in Well}_{(feet)}]$

$V_{(gal)} =$

$V_{(gal)} \times 3 =$

Development Method : Bailer - plastic Containment :

Average Rate of Removal of Water : gal/min.

Weather : Cloudy, cool

Comments :

Turbidity

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Temp (°C)	pH	Conductivity (uS/cm)	Clarity	Remarks
start	5/11/96 0950	11.5 gal	stopped	to	recharge		0955	
start	1025	12.5 gal	—	11.0	7.60	845	cloudy	
start	1100	13.5 gal	—	11.5	7.64	857	cloudy	

OPERATIONAL TECHNOLOGIES
WELL DEVELOPMENT LOG

Monitoring Well: 7-MW2

Development Start: (Date) 5/9/96 (Time) 850

Development End : (Date) 5/9/96 (Time) 1040

Developed By : O'Keefe Drilling - Clint Nelson

PID Reading : (Background) 0 ppm (Reading) 3.2 ppm

Groundwater : (Water Level) 54.55 btoc/bls (Well Depth) 62.48 btoc/bls

Volume of Water in the Well: KP 5/9/96

~~$V_{(gal)}$ = [0.0408] x [Well Diameter$_{(inches)}$]^2 x [Height of Water in Well$_{(feet)}$]~~

$V_{(gal)}$ = Vdwr = VBH + Vwell
VBH = (1.468 gal/ft)(0.4) Vwell (0.163 gal/ft)(Hwell)

$V_{(gal)}$ x 3 =

Development Method : Bailer - Stainless-Steel Bailer 2" x 5' Containment : ~~55~~ 1,100 gallon plastic tank

Average Rate of Removal of Water : gal/min.

Weather : Snow (light - medium)

Comments : Decontaminated bailer by steam clean

	Time	Volume of Water Removed (gallons)	~~Water Level ft BTOC~~ Turbidity (NTU)	Temp (°C)	pH	Conductivity (uS/cm)	Clarity	Remarks
Initial	905	—	>999	9.5	7.80	800	Cloudy	
	925	11.0	120(?)	10.5	6.95	960	Cloudy	error in turbidity
	958	22.0	>999	11.0	6.97	968	Cloudy	
	1035	33.0	580	10.8	7.01	971	Slightly Cloudy	
	1040	~35.0	Stopped	Development				

KP

OPERATIONAL TECHNOLOGIES
WELL DEVELOPMENT LOG

Monitoring Well: 7-MW3

Development Start: (Date) 5/11/96 (Time) 830

Development End : (Date) (Time)

Developed By : Kathryn Pritchett and Bill Hedberg

PID Reading : (Background) 0 ppm (Reading) 0 ppm

Groundwater : (Water Level) 50.51 btoc/bls (Well Depth) 65.00 btoc/bls

TD$_{BH}$: 68.5' BLS

Volume of Water in the Well: $V_{BH} + V_{well}$

$V_{(gal)}$ = ~~[0.0408] x [Well Diameter$_{(inches)}$]^2 x [Height of Water in Well$_{(feet)}$]~~ NA

V_{BH} = (1.468 gal/ft.) (0.4) (17.99 ft) = 10.6 gal

V_{well} = (0.163 gal/ft) (14.99 ft) = 2.4 gal

13 gal

$V_{(gal)}$ = 13 gals

$V_{(gal)}$ x 3 = 39 gals

Development Method : Bailer Containment : 1,100 - gal plastic tank

Average Rate of Removal of Water : gal/min.

Weather : cloudy ; 40's

Comments : across alpha taxiway

Horiba U-10 model Serial # 406040

	Time	Volume of Water Removed (gallons)	~~Water Level ft BTOC~~ Turbidity	Temp (°C)	pH	Conductivity (uS/cm)	Clarity	Remarks
initial	830	—	7999	9.7	7.30	721	cloudy	
	945	13 gals	7999	9.4	7.17	802	cloudy	
	1055	26 gals	7999	10.5	7.76	779	cloudy - slightly cloudy	
		Stopped		~~12.2~~	~~7.51~~	~~741~~	NL 5/11/96	
start	1255	39 gal	7999	12.2	7.51	741	cloudy	
	1400	56 gal	7999	11.7	7.47	743	cloudy	
			development	stopped	1405	5/11/96		
				MMG				

OPERATIONAL TECHNOLOGIES
WELL DEVELOPMENT LOG

Monitoring Well: 7-MW5

Development Start: (Date) 5/9/96 (Time) 1425

Development End : (Date) (Time)

Developed By : OKeefe Drilling Clint Nelson

PID Reading : (Background) 0 ppm (Reading) 0 ppm

Groundwater : (Water Level) 53.56 btoc/bls (Well Depth) 63.36 btoc/bls

Volume of Water in the Well: $V_{BH} = 16.87$ gals $V_{well} =$ 1.6 gals TD BH 82.3' BLS at 5/10/96

~~$V_{(gal)}$ = [0.0408] x [Well Diameter$_{(inches)}$]^2 x [Height of Water in Well$_{(feet)}$]~~

$V_{(gal)} = V_{dw.} = V_{BH} + V_{well}$

$V_{(gal)} \times 3 =$ V_{BH} (1.468 gal/ft)(0.4)(H_{BH}) V_{well} = (0.163 gal/ft)(H_{well})

Development Method : Bailer Containment : 1,100-gal plastic tank

Average Rate of Removal of Water : gal/min.

Weather : Cloudy, snowing

Comments : $V_{well} \times$
V = 18.5 gals X 3 → 55 gals
Turbidity
stopped to recharge 1510 5/10/96

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Temp (°C)	pH	Conductivity (uS/cm)	Clarity	Remarks
initial	1425	—	776	10.9	7.57	642	grey color	slightly cloudy - faint odor
~	1445	4 gals	— Stopped to recharge					
Started 1525 →	1609	8.5 gals	— Stopped to recharge					
Started 1645 →	1646	8.5 gals	11					
5/10/96	802	11	539	11.9	7.77	773	slightly cloudy	clear W.L. 55.18 BTOC
	813	10.5 gallons	- Stopped to recharge					
Started 1500	1511	11 gals	292	13.1	7.71	898	Clear -	
	1521	12 gals	— Stopped — to recharge					
	1640-1647	13 gal	— Stopped — to recharge					
	1714	13 gals	6	~~13.91~~ 13.7	~~7.58~~ 7.53	980	clear	
		Stopped development → clear						

OPERATIONAL TECHNOLOGIES
WELL DEVELOPMENT LOG

Monitoring Well: 7-MW4

Development Start: (Date) 5/9/96 (Time) 1450

Development End : (Date) 5/10/96 (Time) 1756

Developed By : O'keefe Drilling Clint Nelson

PID Reading : (Background) 0 ppm (Reading) 3.8 ppm

Groundwater : (Water Level) 58.38 btoc/bls (Well Depth) 62.38 btoc/bls

Volume of Water in the Well: JK 5/9/96

~~$V_{(gal)} = [0.0408] \times [\text{Well Diameter}_{(inches)}]^2 \times [\text{Height of Water in Well}_{(feet)}]$~~ $V_{well} =$ 0.7 gals

$V_{(gal)} =$ $V_{dev.} = V_{BH} + V_{well}$ $V_{BH} =$ 7.3 gals

$V_{(gal)} \times 3 =$ $V_{BH} = (1.468 \text{ gal/ft})(0.4)$ $V_{well} (0.163 \text{ gal/ft})(H_{well})$

Development Method : Bailer Containment : 1100-gal plastic tank

Average Rate of Removal of Water : gal/min.

Weather : Cloudy, snow (light) - sunny in afternoon on 5/10/96

Comments : 8.0 gals per volume total of 24 gallons
stopped to recharge 5/9/96 1510 JK

	Time	Volume of Water Removed (gallons)	~~Turbidity~~ Turbidity ~~Water Level ft BTOC~~	Temp (°C)	pH	Conductivity (uS/cm)	Clarity	Remarks
Initial	1455	~~2990ft~~ -	~~>~~999	9.9	7.35	~~650~~ 638	Cloudy slight	odor
	1500	3 gals	— Stopped to recharge					
Started ~~1520~~ ~~1530~~ 1625 start	1642	8 gals	95	9.6	7.34	873	cloudy	Stopped to recharge
	5/10/96 815	11	115	10.9	7.22	726	Clear	W.L. 58.5' BTOC
	833	10 gals	— Stopped to recharge					
	1208 1235	13 gals	— Stopped to recharge				slightly cloudy - clear	— Stopped to recharge
	1515	16 gals	655	13.2	7.63	920		
	1620-1647	20.5 gals	— Stopped to recharge		~~7.47~~			
	1756	24.5 gals	261	11.2	~~7.47~~	922	slightly cloudy - clear	
			Stopped Development					

JK

OPERATIONAL TECHNOLOGIES
WELL DEVELOPMENT LOG

Monitoring Well: 8-MW2

Development Start: (Date) 5/10/96 (Time) 940

Development End : (Date) 5/10/96 (Time) 1220

Developed By : O'Keefe Drilling - Clint Nelson

PID Reading : (Background) 0.4 ppm (Reading) 1.1 ppm

Groundwater : (Water Level) 51.44 btoc/bls (Well Depth) 64.37 btoc/bls

Volume of Water in the Well:

$V_{(gal)}$ = ~~[0.0408] x [Well Diameter$_{(inches)}$]^2 x [Height of Water in Well$_{(feet)}$]~~

$V_{BH} + V_{well} = V_{gal}$

$V_{(gal)}$ = 10.9 gals

$V_{BH} = (1.468\ \text{gal/ft})(0.4\ \text{porosity})(14.96'\ H_{BH}) = 8.78\ \text{gal}$

$V_{(gal)} \times 3$ = 32.7 gals

$V_{well} = (0.163)(12.93'\ H_{well}) = 2.1\ \text{gals}$

Development Method : bailer Containment: 1,100-gal plastic tank

Average Rate of Removal of Water: ~0.3 gal/min.

Weather : Cloudy, Temp 30's

Comments : good mw - recommend for slug test

	Time	Volume of Water Removed (gallons)	~~Water Level ft BTOC~~ Turbidity	Temp (°C)	pH	Conductivity (uS/cm)	Clarity	Remarks
initial	940	—	799	12.2	7.35	893	Cloudy	
	1025	11 gals	7999	11.5	7.56	945	very cloudy	
	1109	22 gals	7999	10.7	7.52	935	cloudy	
	1118	26.5 ~~24.5~~ gals	stopped to recharge					
Started	1140	— 26.5 gals						22 min to recharge
	1220	33 gals	188	11.7	7.56	940	clear	
		Stopped development						

OPERATIONAL TECHNOLOGIES
WELL DEVELOPMENT LOG

Monitoring Well: 8- MW4

Development Start: (Date) 5/10/96 (Time) 1215

Development End : (Date) 5/10/96 (Time) 1732

Developed By : O'Keefe Drilling — Clint Nelson

PID Reading : (Background) 0 ppm (Reading) 0 ppm

Groundwater : (Water Level) 47.02 btoc/bls (Well Depth) 60.34 btoc/bls

Volume of Water in the Well: $V_{BH} + V_{well}$ V_{BH} = (1.468 gal/ft) (0.4) (14.68 ft) V_{well} (0.163 gal/ft) (13.32')

8.6 ~~10.0~~ gals + 2.2 gals

$V_{(gal)}$ = ~~[0.0408] x [Well Diameter$_{(inches)}$]^2 x [Height of Water in Well$_{(feet)}$]~~

$V_{(gal)}$ = 10.8 gals

$V_{(gal)}$ x 3 = 32.3 gals

Development Method : Bailer (2") Containment : 1,100-gal plastic tank

Average Rate of Removal of Water : gal/min.

Weather : Cloudy ; 30's

Comments :

Turbidity

	Time	Volume of Water Removed (gallons)	~~Water Level ft BTOC~~	Temp (°C)	pH	Conductivity (uS/cm)	Clarity	Remarks
initial	1215	—	115	11.8	7.18	785	slightly cloudy	
	1237	~~10~~ 7 gals	— Stopped to recharge				cloudy	
Start 1330	1353	11 gals	7999	12.1	7.62	834	very cloudy	— Stopped to recharge
1521 1555		16 gals	— Stopped to recharge					
	1635	22 gals	7999	11.5	7.54	864	cloudy - slightly cloudy	
	1732	33 gals	7999	11.3	7.52	857	slightly cloudy	
		Stopped development						

OPERATIONAL TECHNOLOGIES
WELL DEVELOPMENT LOG

Monitoring Well: 8-MW3

Development Start: (Date) 5/10/96 (Time)

Development End : (Date) (Time)

Developed By : O'Keefe Drilling - Clint Nelson

PID Reading : (Background) 0 ppm (Reading) 5.9 ppm

Groundwater : (Water Level) 47.64 btoc/bls (Well Depth) 57.08' btoc/bls

Volume of Water in the Well: $V_{BH} = (1.468\ gal/ft)(0.4)(6.96\ ft)$

$V_{BH} + V_{well}$ $V_{well} = (0.163)\ gal/ft\ (9.44\ ft)$

$V_{(gal)} =$ ~~[0.0408] x [Well Diameter$_{(inches)}$]^2 x [Height of Water in Well$_{(feet)}$]~~

$V_{(gal)} =$ 11.5 gals

$V_{(gal)} \times 3 =$ 34.5 gals

Development Method : Bailer Containment : 1,100-gal plastic tank

Average Rate of Removal of Water : gal/min.

Weather : Cloudy ; 30's ; slight N-NW wind

Comments :

	Time	Volume of Water Removed (gallons)	Turbidity ~~Water Level @ BTOC~~	Temp (°C)	pH	Conductivity (uS/cm)	Clarity	Remarks
initial	1133	—	738	11.0	7.22	871	cloudy	
	1152	5 gals	— Stopped to recharge					cloudy
start Stop 1350	1345	6 gals	— Stopped to recharge					
	1525 1530	-started 7 gals — stopped — to recharge						
	1644-1651	7.5 gals	-Stopped to recharge — cloudy					
start stopped	5/11/96 0850	9.5 gal	—	10.8	7.41	722	Cloudy	
		Stopped	to recharge	0915				
5/11/96 ~~start~~	1000	start at 1550 11.0 gal	Stopped to recharge					
start	1630	11.5 gal	849	12.8	7.56	676		
5/12/96	1330-1345	13.5 gals	— stopped - to recharge - bailed dry					
	1355	13.5 gals	7999	15.2	7.68	720	slightly cloudy	

2 gals readings

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG - Great Falls ANG Well No. 1-MW2

Client/Project: HAZWRAP/Great Falls Site: 1

Sampled By: Kathryn Pritchett / MRE RI Grazier Sample No: 1-MW2-GW2

Sample Start: (Date) 5/16/94 (Time) 945 Sample End: (Date) 5/16/94 (Time) 1018

Background PID Reading: 0 ppm PID Reading: 0 ppm

Depth to Water (BTOC): 44.90

Screen Interval: 40 - 60' BLS

Sampling method: bailer, 2"

Sampling Equipment: ✓

Sampling Equipment Decontamination method:

- new disposable bailer

Weather: cloudy, 50s

Lab Analyses:
(including preservatives and filtering if applicable)

VOCs (CLP) (4) 40-ml VOA HCl
SVOCs (CLP) (2) 1-l amber
TPH (8015) GRO (2) 40-ml VOA HCl
DRO (1) 1-l amber
metals (CLP) (1) 1-l Poly HNO_3 - each unfiltered and filtered (0.45 µm)

QA/QC Samples:

1000 — 1-MW2-GW2A

Comments:
(including depth of pump if used for sampling)

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1018	10.0	7.44	1,550	122	clear

KP

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG - Great Falls ANG Well No. 1-MW1

Client/Project: HAZWRAP / Great Falls Site: 1

Sampled By: Kathryn Pritchett / mce Site No: Sample No: 1-MW1-GW1

Sample Start: (Date) 5/16/96 (Time) 1045 1830 Sample End: (Date) (Time)

Background PID Reading: 0 ppm PID Reading: 0 ppm

Depth to Water (BTOC): 56.62' BTOC 5/16/96 (1830) 56.91' BTOC 5/17/96 (658)

Screen Interval:

Sampling method: Bailer 2"

Sampling Equipment: ↓

Sampling Equipment Decontamination method:

- new disposable bailer

Weather:

cloudy, 50's

Lab Analyses:
(including preservatives and filtering if applicable)

VOCs (CLP) (4) 40-ml VOA HCl
SVOCs (CLP) (2) 1-l amber
TPH (8015) GRO (2) 40-ml VOA HCl
DRO (1) 1-l amber

QA/QC Samples:

metals (CLP) (1) 1-l Poly HNO_3 - each unfiltered and filtered (0.45 µm)

Comments:
(including depth of pump if used for sampling)

5/16/96 1830 - Collected VOCs (CLP) and TPH (8015) GRO. Also ~~ctd~~ collected ~ 1/4-l TPH (8015) DRO. Bailed dry. W.L. 56.62' BTOC TD: 57.75' BTOC

5/17/96 658 - Collected an additional 1/4-l TPH (8015) DRO. Bailed dry. W.L. 56.91' BTOC

Time	Temperature (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
			NA		

Slow Recharge!

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG - Great Falls Well No. 6-MW1
Client/Project: ~~HAZWRAP~~ / Great Falls ANG RI Site: 6
Sampled By: Kathryn Pettigrew / Moe Ghazizadeh Sample No: 6-MW1-GW2
Sample Start: (Date) 5/14/96 (Time) 810 Sample End: (Date) ~~8/~~ 5/14/96 (Time) 853
Background PID Reading: 0 ppm PID Reading: 0 ppm
Depth to Water (BTOC): 47.79'
Screen Interval:
Sampling method: Bailer 2"
Sampling Equipment: ✓
Sampling Equipment Decontamination method:
— new ~~disposable~~ disposable bailer

Weather: cloudy, 50's, N-NW winds, 10 mph

Lab Analyses:
(including preservatives and filtering if applicable)
VOCs (CLP) (4) 40-ml VOA vial HCl
SVOCs (CLP) (2) 1-l amber
TPH (8015) ~~TP~~ GRO (2) 40-ml ~~[illegible]~~ VOA vial HCl
DRO (1) 1-l amber
metals (CLP) (1) 1-l poly HNO_3 → on filtered (0.45 μm) and unfiltered
QA/QC Samples:

Comments:
(including depth of pump if used for sampling)
Poor producer!

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
853	14.8	7.53	762	244	slightly cloudy

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG - Great Falls ANG Well No. 6-MW2
Client/Project: HAZWRAP / Great Falls Site: 6
Sampled By: Kathryn Pritchett / Mike Chatelain RE Sample No: 6-MW-6W1
Sample Start: (Date) 5/13/96 (Time) 1400 Sample End: (Date) 5/13/96 (Time) 1547
Background PID Reading: 0 ppm PID Reading: 0 ppm
Depth to Water (BTOC): 55.68'
Screen Interval: 41-61' BLS
Sampling method: Bailer 2"
Sampling Equipment: ✓
Sampling Equipment Decontamination method:

- new disposable bailer

Weather: Cloudy, 50s

Lab Analyses:
(including preservatives and filtering if applicable)

VOCs (CLP) HCl (4) ~~2~~ 40-ml VOA vials
SVOCs (CLP) (2) 1-l amber
TPH (8015) GRO HCl (2) 40-ml VOA vials
DRO (1) 1-l amber
metals (CLP) (1) 1-l Poly HNO_3 (filtered and unfiltered) 0.45 µm filter

QA/QC Samples:

Comments:
(including depth of pump if used for sampling)

- ~~well~~ Collected VOCs, TPH, and 1/4 SVOCs from 1400-1434 - stopped to recharge well
1500- ~~1530~~ 1525 - Stopped to recharge well

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1547	14.9	7.56	818	442	slightly cloudy

KP

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG - Great Falls ANG Well No. 6-MW3
Client/Project: HAZWRAP / Great Falls RI Site: 6
Sampled By: Sample No: 6-MW3-GW1
Sample Start: (Date) 5/14/94 (Time) 1015. Sample End: (Date) 5/14/94 (Time) 1105
Background PID Reading: 0 ppm PID Reading: 10.4 ppm.
Depth to Water (BTOC):
Screen Interval: 40-60' BLS
Sampling method: Bailer, 2"
Sampling Equipment: ↓
Sampling Equipment Decontamination method:
— new disposable bailer

Weather:

Lab Analyses:
(including preservatives and filtering if applicable)
VOCs (CLP) - (4) 40-ml VOA vials HCl
SVOCs (CLP) - (2) 1-l amber
TPH (8015) GRO (2) 40-ml VOA vials HCl
DRO (1) 1-l amber

QA/QC Samples: Metals (CLP) (1) 1-l Poly HNO_3 → each unfiltered and filtered (0.45 μm)

Comments:
(including depth of pump if used for sampling)

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1111	14.5	7.98	761	41	slightly cloudy - clear

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG | Well No. 7-MW2
Client/Project: HAZWRAP / Great Falls | Site: 7
Sampled By: Kathryn Pritchett / Moe Ghatizadeh KL | Sample No: 7-MW2-GW
Sample Start: (Date) 5/12/96 (Time) 1500 | Sample End: (Date) 5/12/96 (Time) 1550
Background PID Reading: 0 ppm | PID Reading: 5.2 ppm
Depth to Water (BTOC): 55.38'
Screen Interval: 42-62' BLS
Sampling method: Bailer - 2"
Sampling Equipment: ↓
Sampling Equipment Decontamination method:
— new disposable bailer

Weather: Partly cloudy, Temp 50's, light winds

Lab Analyses:
(including preservatives and filtering if applicable)
VOCs (CLP) HCl — (4) 40-ml VOA vials
SVOCs (CLP) — (2) 1-l amber
TPH (8015) GRO - HCl - (2) 40-ml VOA vials DRO - (1) 1-l amber
metals (CLP) HNO_3 filtered and nonfiltered (0.45 μm filter) - (1) 1-l poly each

QA/QC Samples:

Comments:
(including depth of pump if used for sampling)

Time	Temperature (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1505	14.6	7.69	930	77	Clear

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG - Great Falls ANG Well No. 7-MW3
Client/Project: HAZWRAP / Great Falls Site: 7
Sampled By: Kathryn Peithlott / Dave Chaziroades RE Sample No: 7-MW3-GW2
Sample Start: (Date) 5/15/96 (Time) 1045 Sample End: (Date) 5/15/96 (Time) 1120
Background PID Reading: 0 ppm PID Reading: 0.3 ppm
Depth to Water (BTOC): 50.21'
Screen Interval: 45 - 65' BLS
Sampling method: Bailer 2"
Sampling Equipment: ↓
Sampling Equipment Decontamination method:
- new disposable bailer

Weather:
Cloudy, 50's

Lab Analyses:
(including preservatives and filtering if applicable)
VOCs (CLP) (4) 40-ml VOA HCl
SVOCs (CLP) (2) 1-l amber
TPH (8015) (2) 40-ml VOA HCl
GRO
DRO 1-l amber
metals (CLP) (1) 1-l Poly HNO_3
- each unfiltered and filtered (0.45 µm)

QA/QC Samples:
- Duplicate
7-MW3-GW2A

Comments:
(including depth of pump if used for sampling)

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1120	11.8	~~6.8~~ 7.64	810	246	slightly cloudy-clear

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG - Great Falls ANG Well No. 7-MW4
Client/Project: HAZWRAP / Imoe Site: 7
Sampled By: Kathrynn Pritchett / Ghazizadeh Sample No: 7-MW4-GW4
Sample Start: (Date) 5/13/96 (Time) 1715 Sample End: (Date) 5/13/96 (Time) 1731
Background PID Reading: 0 ppm PID Reading: 33 ppm
Depth to Water (BTOC): 58.62'
Screen Interval: 42' - 62' BLS
Sampling method: Bailer 2"
Sampling Equipment: ✓
Sampling Equipment Decontamination method:

- new disposable bailer

Weather: Cloudy, 50's, N-NW winds, 15-20 mph

Lab Analyses:
(including preservatives and filtering if applicable)

VOCs (CLP) (4) 40-ml VOA HCl
SVOCs (CLP) (2) 1-l amber
TPH (8015) GRO (2) 40-ml VOA HCl
DRO (1) 1-l amber
Metals (CLP) (1) 1-l Poly HNO_3 - each unfiltered and filtered (0.45 µm)

QA/QC Samples:

Comments:
(including depth of pump if used for sampling)

Produces silt! Moderate producer.

Time	Temperature (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1731	14.5	7.66	836	7999	Cloudy

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG - Great Falls ANG Well No. 7-MW5
Client/Project: HAZWRAP/Great Falls Site: 7
Sampled By: Kathryn Peitchott/McChristian Sample No: 7-MW5-GW1
Sample Start: (Date) 5/13/96 (Time) 1615 Sample End: (Date) 5/13/96 (Time) 1641
Background PID Reading: 0 ppm PID Reading: 0 ppm
Depth to Water (BTOC): 54.83'
Screen Interval: 43'-63' BLS
Sampling method: Bailer 2"
Sampling Equipment: ✓
Sampling Equipment Decontamination method:
- new disposable bailer

Weather: Cloudy, 50's, N-NW winds, 15-20 mph

Lab Analyses:
(including preservatives and filtering if applicable)
VOCs (CLP) (4) 40-ml VOA HCl
SVOCs (CLP) (2) 1-l amber
TPH (8015) GRO (2) 40-ml VOA HCl
DRO (1) 1-l amber
metals (CLP) (1) 1-l Poly HNO_3 - each unfiltered and filtered (0.45 μm)

QA/QC Samples:

Comments:
(including depth of pump if used for sampling)
Slow producer - but clear!

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1641	15.1	7.68	859	131	Slightly cloudy - clear

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG - Great Falls ANG Well No. 8-MW1
Client/Project: HAZWRAP / Great Falls Site: 8
Sampled By: Kathryn Peitzlett / moe RI Sample No: 8-MW1-GW1
Sample Start: (Date) 5/15/96 (Time) 1315 Sample End: (Date) 5/15/96 (Time) 1345
Background PID Reading: 0 ppm PID Reading: 0 ppm
Depth to Water (BTOC): 52.79'
Screen Interval:
Sampling method: Bailer 2"
Sampling Equipment: ↓
Sampling Equipment Decontamination method:
- new disposable bailer

Weather: ~~Cloudy~~ NP

Lab Analyses:
(including preservatives and filtering if applicable)
VOCs (CLP) (4) 40-ml VOA HCl
SVOCs (CLP) (2) ~~40-ml~~ 1-l amber
TPH (8015) GRO (2) 40-ml VOA HCl
DRO (1) 1-l amber

QA/QC Samples:
metals (CLP) (1) 1-l Poly HNO_3 - each unfiltered and filtered sample

Comments:
(including depth of pump if used for sampling)

Time	Temperature (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1345	15.5	7.73	811	638	slightly cloudy
			NP		

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG - Great Falls RI Well No. 8-MW2
Client/Project: HAZWRAP / Great Falls RI Site: 8
Sampled By: Kathryn Pettelett/Moe Ghazizadeh Sample No: 8-MW2-GW1
Sample Start: (Date) 5/14/96 (Time) Sample End: (Date) 5/14/96 (Time) 1358
Background PID Reading: 0 ppm PID Reading: 1.0 ppm
Depth to Water (BTOC): 55.17'
Screen Interval: 44-64' BLS
Sampling method: Bailer 2"
Sampling Equipment: ✓
Sampling Equipment Decontamination method:
- new disposable bailer

Weather: Sunny, 50's, winds 20-25 mph N-NW

Lab Analyses:
(including preservatives and filtering if applicable)
VOCs (CLP) (4) 40-ml VOA HCl
SVOCs (CLP) (2) 1-l amber
TPH (8015) GRO (2) 40-ml VOA HCl
DRO (1) 1-l amber
QA/QC Samples: metals (CLP) (1) 1-l Poly HNO_3 - each unfiltered and filtered (0.45 µm)

Comments:
(including depth of pump if used for sampling)

Time	Temperature (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1358	14.8	7.82	938	63	clear

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG - Great Falls ANG Well No. ~~8-MW1~~ 8-mw3
Client/Project: HAZWRAP/Great Falls ANG Site: 8
Sampled By: Kathryn Pritchett/Moe Ghazizadeh Sample No: ~~8-mw3-Gw1~~ 8-mw3-Gw1
Sample Start: (Date) 5/15/96 (Time) ~~1315~~ 1415 Sample End: (Date) (Time)
Background PID Reading: 0 ppm PID Reading: 2.8 ppm
Depth to Water (BTOC): 51.26'
Screen Interval: 37-57' BLS.
Sampling method: Bailer 2"
Sampling Equipment: ✓
Sampling Equipment Decontamination method:
- new disposable bailer

Weather: Cloudy, 50's, windy

Lab Analyses:
(including preservatives and filtering if applicable)
VOCs (CLP) (4) 40-ml VOA HCl
SVOCs (CLP) (2) 1-l amber
TPH (8015) GRO (2) 40-ml VOA HCl
DRO (1) 1-l amber
metals (CLP) (1) 1-l Poly HNO$_3$ - each unfiltered and filtered (0.45 μm)

QA/QC Samples:

Comments:
(including depth of pump if used for sampling)

Time	Temperature (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1453	15.2	7.80	717	106	slightly cloudy - clear

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG – Great Falls RI Well No. 8-MW4
Client/Project: HAZWRAP / Great Falls Site: 8
Sampled By: Kathryn Petfield / Great Falls RI Sample No: 8-MW4-GW1
Sample Start: (Date) 5/14/96 (Time) 1630. Sample End: (Date) 5/14/96 (Time) 1653
Background PID Reading: 0 ppm PID Reading: 0.6 ppm
Depth to Water (BTOC): 53.68'
Screen Interval: 40-60' BLS
Sampling method: Bailer, 2"
Sampling Equipment: ✓
Sampling Equipment Decontamination method:
– new disposable bailer

Weather: Cloudy, rain, 50's, N-~~HP~~ NW winds (15-20 mph)

Lab Analyses:
(including preservatives and filtering if applicable)
VOCs (CLP) (4) 40-ml VOA HCl
SVOCs (CLP) (2) 1-l amber
TPH ~~CLP~~ (8015) GRO (2) 40-ml VOA HCl
DRO (1) 1-l amber

QA/QC Samples: metals (CLP) (1) 1-l Poly HNO3 - each unfiltered and filtered (0.45 μm)

Comments:
(including depth of pump if used for sampling)

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
1653	13.9	7.65	883	534	slightly cloudy
			KP		

OPERATIONAL TECHNOLOGIES
WELL PURGING LOG

Installation: MANG
Site: Great Falls, MT, Site No. 1
Client/Project: MANG
Well No: 1-mw-1
Purge Start: (Date) 8 Jul 96 (Time) 0800
Sample No: 1-mw1-GW2
Purge End: (Date) 8 Jul 96 (Time) 0900
PID Reading: 0.0 ppm
Purged By: MG / DB
Background PID Reading: 0.0 ppm
Depth to top of screen:
Depth to bottom of screen:
Depth to Water (BTOC): 53.65 FT
Depth to Bottom of Well (BTOC): 57.82 FT

Volume of Water in Well (gallons) = (0.0408) x (well diameter (inches))² x height of water column (feet) 4.17' x 0.163 = 0.679 gals

Volume of Water in Well x 3 = 2.03 gal
0.679 x3 =

Purge method: Bailor 2"
Purge Water Containment: Poly Tank (1,100 gal)
Average Rate of Removal of Water:
LNAPL/DNAPL Thickness: —
Equipment for NAPL: —
Weather: 70's Sunny

Comments: purged Dry after 2.2 gallons @ 0856

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
Initial	0812	0.7	53.65	N/A	13.7	7.03	0.63	32	DO=13.8
	0830	0.5			11.8	7.15	0.62	418	DO = 14.8
	0837	0.3			11.2	7.22	0.61	602	DO = 14.1
	0845	0.3			11.1	7.23	0.62	827	DO = 13.8
	0853	0.4			11.3	7.28	0.621	999	DO = 13.9
Stop	0856	0.0 Purged	Dry						

DLP

OPERATIONAL TECHNOLOGIES
WELL PURGING LOG

Installation: MANG
Site: 1 / Great Falls
Client/Project: MANG
Well No: 1-mw2
Purge Start: (Date) 8 Jul 96 (Time) 0910
Sample No: 1-mw2-6w2
Purge End: (Date) 8 Jul 96 (Time) 1000
PID Reading: 0.0 ppm
Purged By: DB / MG
Background PID Reading: 0.0 ppm
Depth to top of screen: 40' BLS
Depth to bottom of screen: 60' BLS
Depth to Water (BTOC): 43.46 FT
Depth to Bottom of Well (BTOC): 59.48 FT

Volume of Water in Well (gallons) = (0.0408) x (well diameter (inches))² x height of water column (feet) 16.02 x 0.163 = 1.61 gals

Volume of Water in Well x 3 = 7.83 gal
1.66 gal x3 =

Purge method: Bailer 2"
Purge Water Containment: 1,100 gal Poly Tank
Average Rate of Removal of Water: -
LNAPL/DNAPL Thickness: —
Equipment for NAPL: —
Weather: 70's Sunny

Comments:

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
Initial	0916	0.45	43.46	NA	12.9	8.29	0.65	10	Do = 13.9
	0922	1.5			11.5	7.21	1.52	10	Do = 14.5
	0927	1.8			10.8	7.06	1.48	78	Do = 14.4
	0934	1.3			11.4	7.00	1.49	10	Do = 13.1
	0941	2.0			11.8	7.02	1.53	764	Do = 13.7
	0947	2.0			10.5	7.01	1.58	513	Do = 15.4
	0955	2.0			10.7	7.03	1.58	325	Do = 15.3
STOP									

DB

OPERATIONAL TECHNOLOGIES
WELL PURGING LOG

Installation: MANG | Site: 6 GREAT FALLS
Client/Project: MANG | Well No: 6-mw1
Purge Start: (Date) 8Jul96 (Time) 1402 | Sample No: 6-mw-603
Purge End: (Date) 8Jul96 (Time) 1445 | PID Reading: 0.0 ppm
Purged By: MG | Background PID Reading: 0.0 ppm
Depth to top of screen: | Depth to bottom of screen:
Depth to Water (BTOC): 48.00 FT | Depth to Bottom of Well (BTOC): 64.74 FT

Volume of Water in Well (gallons) = (0.0408) x (well diameter (inches))² x height of water column (feet) 16.74' x 0.163 = 2.72 gals

Volume of Water in Well x 3 = 8.185
2.72 gals x 3 =

Purge method: Bailer 2"
Purge Water Containment: Poly Tank
Average Rate of Removal of Water:
LNAPL/DNAPL Thickness: — | Equipment for NAPL: —
Weather: 70's Sunny

Comments:

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
Initial	1405	0.5	48.00		15.1	7.2	0.53	8	Do = 12.34 / clr	
	1409	1.0			14.5	7.0	0.51	498	Do = 13.00 /	LT Brown
	1413	1.0			14.3	7.0	0.53	628	Do = 13.20 /	"
	1417	1.0			14.4	7.1	0.54	498	Do = 13.22 /	" "
	1421	1.0			14.3	7.1	0.56	358	Do = 13.00 / "	"
	1426	1.0			14.3	7.1	0.56	466	Do = 12.70	clear
	1431	1.0			14.3	7.2	0.57	244	Do = 12.40	"
	1436	1.0			14.2	7.2	0.58	350	Do = 12.20	"
STOP	1442	1.0			14.2	7.2	0.58	273	Do = 12.32	"

DB

OPERATIONAL TECHNOLOGIES
WELL PURGING LOG

Installation: MANG
Site: 6 GREAT falls
Client/Project: MANG
Well No: 6-mw2
Purge Start: (Date) 8 Jul 96 (Time) 1320
Sample No: 6-mw2-6w2
Purge End: (Date) 8 Jul 96 (Time) 1350
PID Reading: 0.5 ppm
Purged By: mc
Background PID Reading: 0.0 ppm
Depth to top of screen: 41' BLS
Depth to bottom of screen: 61' BLS
Depth to Water (BTOC): 54.50 FT
Depth to Bottom of Well (BTOC): 61.38 FT

Volume of Water in Well (gallons) = (0.0408) x (well diameter (inches))² x height of water column (feet) 6.88' x 0.163 = 1.12 gals

Volume of Water in Well x 3 = 3.36 gals
1.12 gals x 3 =

Purge method: Bailer 2"
Purge Water Containment: Poly Tank 1,100 gal
Average Rate of Removal of Water:
LNAPL/DNAPL Thickness: —
Equipment for NAPL: —
Weather: 70s Sunny

Comments: ① Hydrocarbon (HC) odor
② Brownish gray murky colored

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
Initial	1326	0.5	54.5		14.7	7.1	0.56	18	① / Do = 12.20
	1333	1.0			13.8	7.0	0.62	999+	① ② Do = 13.72
	1337	1.0			13.4	7.0	0.68	999+	① ② Do = 14.29
STOP	1344	1.0			13.5	6.99	0.70	999+	① ② Do = 14.80

OB

OPERATIONAL TECHNOLOGIES
WELL PURGING LOG

Installation: MANG
Site: 6 Great Falls
Client/Project: MANG
Well No: 6-MW3
Purge Start: (Date) 8-5-96 (Time) 1520
Sample No: 6-MW3-GW2
Purge End: (Date) 8-5-96 (Time) 1605
PID Reading: 5.5 ppm
Purged By: MG
Background PID Reading: 0.0 ppm
Depth to top of screen: 40' BLS
Depth to bottom of screen: 60' BLS
Depth to Water (BTOC): 52.04 FT
Depth to Bottom of Well (BTOC): 60.42 FT

Volume of Water in Well (gallons) = (0.0408) x (well diameter (inches))² x height of water column (feet) 8.38 x 0.163 = ~~2.04~~ 1.36

Volume of Water in Well x 3 = 4.097
1.36 x 3 =

Purge method: Bailer 2"
Purge Water Containment: Poly Tank 1,100 gal
Average Rate of Removal of Water:
LNAPL/DNAPL Thickness:
Equipment for NAPL:
Weather: 70's Sunny
① Clear
Comments:

	Time Earth Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
initial 1525	1725	0.5	52.04		16.8	7.1	0.52	10	Do = 11.4	Clear
1529	1729	0.5			14.7	7.0	0.54	168	Do = 12.15	cloudy
1533	1733	0.5			14.8	7.1	0.56	999+	Do = 12.40	cloudy
1536	1736	0.5			14.7	7.1	0.58	999+	Do = 12.73	cloudy
1540	1740	0.5			14.9	7.1	0.60	733	Do = 12.55	cloudy
1544	1744	0.5			15.8	7.2	0.60	536	Do = 13.00	"
1549	1749	0.5			15.0	7.2	0.61	332	Do = 13.00	"
1558	1758	0.5			15.3	7.2	0.62	506	Do = 13.70	
OP 1600	1803	19.5								
				DMB						

OPERATIONAL TECHNOLOGIES
WELL PURGING LOG

Installation: MMNG
Site: 7-MW2 PB GREAT falls
Client/Project: MMNG
Well No: 7-MW2
Purge Start: (Date) 8 Jul 96 (Time) 1034
Sample No: 7-MW2-GW2
Purge End: (Date) 8 Jul 96 (Time) 1105
PID Reading: 30.0 ppm
Purged By: MC / DB
Background PID Reading: 0.8 ppm
Depth to top of screen: 42' BLS
Depth to bottom of screen: 62 BLS
Depth to Water (BTOC): 53.45 FT
Depth to Bottom of Well (BTOC): 62.58 FT

Volume of Water in Well (gallons) = (0.0408) x (well diameter (inches))² x height of water column (feet) 9.13' x 0.163 = 1.488 gals

Volume of Water in Well x 3 = 4.46 gals
1.488 gals x 3 =

Purge method: Bailer 2"
Purge Water Containment: Poly Tank 1,100 gal
Average Rate of Removal of Water:
LNAPL/DNAPL Thickness: /
Equipment for NAPL: /
Weather: 70's Sunny

Comments:
① slight Hydrocarbon odor but no "sheen" or free product noted
② Hydrocarbon odor strong

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks mg/L	
Initial	1034	0.45	53.45		15.8	6.92	0.56	12	DO = 11.80	①
	1039	1.0			13.7	6.99	0.61	341	DO = 12.65	①
	1042	0.5			13.4	7.00	0.66	431	DO = 12.68	①
	1046	0.5			13.4	7.01	0.68	340	DO = 12.62	①
	1051	0.5			13.4	7.01	0.69	326	DO = 12.55	②
	1054	0.5			13.4	7.01	0.73	279	DO = 12.77	②
	1057	0.5			13.3	7.03	0.74	233	DO = 13.00	②
5700	1100	0.5			13.4	7.05	0.74	237	DO = 12.9	②

DMB

OPERATIONAL TECHNOLOGIES
WELL PURGING LOG

Installation: MANG
Site: 7
Client/Project: MANG - HAZWRAP
Well No: 7-MW4
Purge Start: (Date) 9 Jul 96 (Time) 0950
Sample No: 7-MW4-GW2
Purge End: (Date) 9 Jul 96 (Time) 1015
PID Reading: 38.8 ppm
Purged By: MG / DB
Background PID Reading: 0.0 ppm
Depth to top of screen: 42' BLS
Depth to bottom of screen: 62' BLS
Depth to Water (BTOC): 57.73
Depth to Bottom of Well (BTOC): 62.44

Volume of Water in Well (gallons) = (0.0408) x (well diameter (inches))² x height of water column (feet). 4.71 x 0.163 = 0.767 gals

Volume of Water in Well x 3 = 0.767 x 3 = 2.30 gals

Purge method: Bailer 2"
Purge Water Containment: Poly Tank 1,100 gal
Average Rate of Removal of Water:
LNAPL/DNAPL Thickness: —
Equipment for NAPL: /
Weather: Sunny, windy 70°-80°

Comments: ① Lid under pressure when opening.
② STRONG Hydrocarbon odor emanating from well.
③ Sheen on water

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth ~~of pump intake~~	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
Initial	0953	0.5	57.73	11.48	15.2	7.1	0.55	2	Clear ② ③
	0958	0.5		12.38	13.9	7.0	0.56	999+	Cloudy, Brown ② ③
	1005	0.5		12.4	13.6	7.0	0.59	999+	" " ② ③
	1008	0.5		12.6	13.5	6.9	0.68	999+	" " ② ③
STOP	1012	0.5		12.8	13.6	6.9	0.63	999+	" " ② ③

OPERATIONAL TECHNOLOGIES
WELL PURGING LOG

Installation: MANG
Site: 7 Great Falls
Client/Project: MANG
Well No: 7 -mw3
Purge Start: (Date) 9Jul96 (Time) 1100
Sample No: 7.mw3-6w3
Purge End: (Date) 9Jul96 (Time) 1137
PID Reading: 1.1 ppm
Purged By: MG / DP
Background PID Reading: 0.0 ppm
Depth to top of screen: 45' BLS
Depth to bottom of screen: 65' BLS ~~ppm~~ DB
Depth to Water (BTOC): 50.03 FT
Depth to Bottom of Well (BTOC): 65.6 FT

Volume of Water in Well (gallons) = (0.0408) x (well diameter (inches))² x height of water column (feet)

(0.163 gals/ft) x (

Volume of Water in Well x 3 =

Purge method: Bailer 2"
Purge Water Containment: poly Tank
Average Rate of Removal of Water:
LNAPL/DNAPL Thickness:
Equipment for NAPL:
Weather:

Comments: (1) sheen to surface (slight)
6.5 gals purged

Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Do Depth of ~~pump intake~~	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
Initial 1105	0.5	50.03	13.8	14.3	8.0	0.66	0.0	clear
1108	0.5		14.6	13.0	7.2	0.88	224	Cloudy Brown
1112	0.5		15.0	12.8	7.2	0.78	468	" "
1114	0.5		15.4	12.2	7.2	0.77	624	" "
1118	1.0		16.0	12.0	7.2	0.75	751	" "
1122	1.0		15.6	12.1	7.2	0.74	376	" "
1128	1.0		15.8	12.1	7.2	0.72	354	" "
STOP 1133	1.0		16.0	11.9	7.5	0.71	296	" "
			MG					

OPERATIONAL TECHNOLOGIES
WELL PURGING LOG

Installation: MANG
Site: 7 GREAT Falls
Client/Project: MANG
Well No: 7-mw5
Purge Start: (Date) 8 Jul 96 (Time) 1111
Sample No: 7-mw5-GW2
Purge End: (Date) 8 Jul 96 (Time) 1200
PID Reading: 1.4 ppm
Purged By: MG / DP
Background PID Reading: 0.0 ppm
Depth to top of screen: 43' BLS
Depth to bottom of screen: 63 BLS
Depth to Water (BTOC): 53.14 FT
Depth to Bottom of Well (BTOC): 63.35 FT

Volume of Water in Well (gallons) = (0.0408) x (well diameter (inches))² x height of water column (feet) 10.21 x 0.163 = 1.66 gal

Volume of Water in Well x 3 = 4.99 gal
1.66 gal x 3 =

Purge method: Bailer 2"
Purge Water Containment: Poly Tank
Average Rate of Removal of Water:
LNAPL/DNAPL Thickness: —
Equipment for NAPL: —
Weather: 70's Sunny

Comments: ① Slight Hydrocarbon (HC) odor.
② grayish Brown color

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	
Initial	1122	0.48	53.14		14.7	7.06	0.730	180	Do = 12.7	①
	1126	0.45			13.7	7.1	.577	999+	Do = 13.4	①/②
	1130	0.45			13.5	7.1	0.600	999+	Do = 13.6	①/②
	1134	0.75			13.5	7.1	0.690	999+	Do = 14.1	①/②
	1138	0.75			13.6	7.1	0.660	999+	Do = 14.00	①/②
	1145	0.5			13.5	7.1	0.690	999+	Do = 14.20	①/②
	1152	0.5			13.3	7.1	0.715	799	Do = 14.26	①/②
Stop	1157	1.0			13.8	7.1	0.725	999+	Do = 14.21	①/②

OPERATIONAL TECHNOLOGIES
WELL PURGING LOG

Installation: MANG
Site: 8 GREAT FALLS
Client/Project: MANG
Well No: 8 -mw1
Purge Start: (Date) 9 Jul 96 (Time) 0830
Sample No: 8- mw1 -GW2
Purge End: (Date) 9 Jul 96 (Time) 0900
PID Reading: 53.3 ppm
Purged By: MG
Background PID Reading: 0.0 ppm
Depth to top of screen:
Depth to bottom of screen: ~~ppm~~
Depth to Water (BTOC): 52.86 FT
Depth to Bottom of Well (BTOC): 58.88 FT

Volume of Water in Well (gallons) = (0.0408) x (well diameter (inches))² x height of water column (feet)

6.02 x 0.163 = 0.981

Volume of Water in Well x 3 = 2.94 gals
0.981 x 3 = 2.94 gals

Purge method: 2" Bailer
Purge Water Containment: Poly Tank 1,000
Average Rate of Removal of Water:
LNAPL/DNAPL Thickness: /
Equipment for NAPL: /
Weather: Sunny windy 80's

Comments: Purged Dry @ 2.0 gal removed

DO

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of ~~pump~~ intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
Initial	0840	0.5	52.86	9.7	15.4	7.1	0.66	9	Clear
	0845	0.5		11.11	14.5	7.2	0.68	999+	Cloudy Brown
	0848	0.5		11.13	14.2	7.2	0.68	999+	" "
STOP	0851	0.5		11.20	14.1	7.3	0.68	999+	" "

DWB

OPERATIONAL TECHNOLOGIES
WELL PURGING LOG

Installation: MANG
Site: 8 GREAT FALLS
Client/Project: MANG
Well No: 8-MW2
Purge Start: (Date) 8 Jul 96 (Time) 1628
Sample No: 8-MW2-GW2
Purge End: (Date) 8 Jul 96 (Time) 1708
PID Reading: 1.5 ppm
Purged By: MG / DB
Background PID Reading: 0.0 ppm
Depth to top of screen: 44' BLS
Depth to bottom of screen: 64' BLS
Depth to Water (BTOC): 51.56 FT
Depth to Bottom of Well (BTOC): 64.40 FT

Volume of Water in Well (gallons) = (0.0408) x (well diameter (inches))² x height of water column (feet) 12.84 x 0.163 = 2.09 gals

Volume of Water in Well x 3 = 6.278 gal.
2.09 gals x 3 =

Purge method: Bailer
Purge Water Containment: Poly Tank 1,100 gal
Average Rate of Removal of Water: —
LNAPL/DNAPL Thickness: —
Equipment for NAPL: —
Weather: 70's Sunny

Comments: Cloudy, Brown return.

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	DO mg/L
Initial	1630	0.5	51.56		15.0	7.2	0.70	543	Cloudy	12.24
	1635	0.5			14.0	7.2	0.73	999+	" / Brown	12.40
	1639	0.5			13.8	7.2	0.72	999+	" / "	12.40
	1641	0.5			13.8	7.2	0.73	999+	" / "	12.50
	1644	0.5			13.5	7.2	0.74	736	" "	12.82
	1651	1.0			14.0	7.2	0.75	746	" / "	13.00
	1654	0.5			13.5	7.2	0.74	999+	" / "	13.00
	1700	1.0			13.9	7.2	0.74	999+	" / "	12.99
5.0	1704	1.0			13.7	7.2	0.74	999+	" / "	13.40
	17									
				DB						

OPERATIONAL TECHNOLOGIES
WELL PURGING LOG

Installation: MANG
Site: 8 GREAT Falls
Client/Project: MANG
Well No: 8-mw3
Purge Start: (Date) 8 Jul 96 (Time) 1720
Sample No: 8-mw3-GW2
Purge End: (Date) 8 Jul 96 (Time) 1745
PID Reading: 6.8 ppm
Purged By: MC, DB
Background PID Reading: 0.0 ppm
Depth to top of screen: 37' BLS
Depth to bottom of screen: 57' BLS
Depth to Water (BTOC): 51.20 FT
Depth to Bottom of Well (BTOC): 57.30 FT

Volume of Water in Well (gallons) = (0.0408) x (well diameter (inches))² x height of water column (feet) 6.0' x 0.163 = 0.978 gals

Volume of Water in Well x 3 = 2.934 gals
0.978 gals x 3

Purge method: Bailer 2"
Purge Water Containment: Poly Tank 1,100 gal
Average Rate of Removal of Water: —
LNAPL/DNAPL Thickness: —
Equipment for NAPL: —
Weather: 70's Sunny

Comments: Well Dry @ 2.75 gals

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	Depth of pump intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks	DO mg/L
Initial	1726	0.5	51.20		15.2	7.1	0.51	10	clear	12.10
	1728	0.5			13.8	7.0	0.53	444	cloudy	13.10
	1731	0.5			13.8	7.0	0.53	839	cloudy	13.20
	1735	0.5			13.9	7.0	0.54	654	cloudy	13.70
Stop	1740	0.5			13.9	7.0	0.54	50	clear	14.40

DAP

OPERATIONAL TECHNOLOGIES
WELL PURGING LOG

Installation: MANG | Site: E Great Falls
Client/Project: MANG | Well No: E-MW-4
Purge Start: (Date) 9 Jul 96 (Time) 0900 | Sample No: E-MW-4 - 602
Purge End: (Date) 9 Jul 96 (Time) 0930 | PID Reading: 0.0 ppm
Purged By: MG DB | Background PID Reading: 0.0 ppm
Depth to top of screen: 40' BLS | Depth to bottom of screen: 60 BLS
Depth to Water (BTOC): 53.74 FT | Depth to Bottom of Well (BTOC): 60.42 FT

Volume of Water in Well (gallons) = (0.0408) x (well diameter (inches))² x height of water column (feet)

6.68 x 0.163 = 1.088 gals

Volume of Water in Well x 3 =
1.088 x 3 = 3.266 gals

Purge method: 2" Bailer
Purge Water Containment: Poly Tank (100 gal)
Average Rate of Removal of Water: —
LNAPL/DNAPL Thickness: — Equipment for NAPL: —
Weather: Sunny warm windy

Comments:

DO mg/L

	Time	Volume of Water Removed (gallons)	Water Level ft BTOC	~~Depth of pump~~ intake	Temp (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
Initial	0910	0.5	53.74	11.3	14.4	7.0	0.62	10	Clear
	0912	0.5		11.7	13.6	7.1	0.66	664	Cloudy Gray
	0914	0.5		11.7	13.7	7.1	0.68	743	" "
	0918	0.5		11.7	13.4	7.1	0.70	777	" "
	0920	0.5		11.7	13.5	7.0	0.70	564	" "
	0925	0.5		11.7	13.6	7.1	0.71	382	Clear
Stop	0930	0.5		11.7	13.8	7.1	0.71	383	Clear

DB

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG
Well No. 1-MW2
Client/Project: MANG
Site: 1 GREAT Falls
Sampled By: DB/MG
Sample No: 1-MW2-GW3
Sample Start: (Date) 9 Jul 96 (Time) 1310
Sample End: (Date) 9 Jul 96 (Time) 1340
Background PID Reading: 0.0 ppm
PID Reading: 0.0 ppm
Depth to Water (BTOC): 43.48
Screen Interval: 40-60 BL
Sampling method: Bailer 2"
Sampling Equipment: Bailer 2"
Sampling Equipment Decontamination method:

None Disposable

Weather: 70° Sunny

Lab Analyses:
(including preservatives and filtering if applicable)

VOCs 10/92 CLP - HCL
SVOC 3/90 CLP - None
TPH - GRO - 8015 - HCL
TPH - DRO - - None
metals 3/90 CLP - HNO3 (Filtered, unfiltered)

QA/QC Samples:

None for samples

TB-A

Temp Blank

Comments:
(including depth of pump if used for sampling)

Clear

Time	Temperature (°C)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks DO	
1320	15.0	7.2	1.40	0.0	13.4	Clear
			MG			

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG
Well No. 1-MW1
Client/Project: MANG
Site: 1 GREAT FALLS
Sampled By: DB MC
Sample No: 1-MW1-GW1
Sample Start: (Date) 11Jul96 (Time) 0950
Sample End: (Date) 11Jul96 (Time) 1000
Background PID Reading: 0.0 ppm
PID Reading: 0.0 ppm
Depth to Water (BTOC): 55.87
Screen Interval:
Sampling method: 2" Bailer
Sampling Equipment: ↓
Sampling Equipment Decontamination method:
None Disposal

Weather: Sunny warm windy

Lab Analyses:
(including preservatives and filtering if applicable)

Pb ~~VOC 8240~~ 10/92 CLP - HCL
SVOC 3/90 CLP - NONE
TPH 8015 - HCL / NONE
metals 3/90 CP - HNO3 (Filtered / unfiltered

QA/QC Samples:

Trip Blank

Temp Blank

Comments:
(including depth of pump if used for sampling)

well purged Dry. (before water measurements (Below) could be taken)

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks
	Purged		Dry		

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG
Well No. 6-MW1
Client/Project: MANG
Site: 6 GREAT Falls
Sampled By: DB / MG
Sample No: 6-MW1-GW3
Sample Start: (Date) 10 JUL 96 (Time) 0906
Sample End: (Date) 10 JUL 96 (Time) 0958
Background PID Reading: 0.0 ppm
PID Reading: 5.7 ppm
Depth to Water (BTOC): 47.96
Screen Interval:
Sampling method: 2" Bailer
Sampling Equipment: 2" Bailer
Sampling Equipment Decontamination method:

Disposal

Weather: Cloudy 70's

Lab Analyses:
(including preservatives and filtering if applicable)

VOC W/42 CLP - HCL
SVOC 3/90 CLP - none
Metals (Total, Dissolved) 3/90 CLP - HNO3
TPH - GRO - HCL
TPH - DRO - None

QA/QC Samples:

TEMP Blank
TRIP Blank

Comments:
(including depth of pump if used for sampling)

fair - Poor Producer.

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks DO	
0915	15.5	7.5	0.49	42	11.3	Clear
			MG			

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

MG Dup 10Jul96

Installation: MANG
Well No. 6 — MW2 ~~2~~
Client/Project: MANG
Site: GREAT Falls
Sampled By: DB / MG
Sample No: 6 — MW 2 · 6W2
Sample Start: (Date) 10Jul96 (Time) 0800
Sample End: (Date) 10Jul96 (Time) 0900
Background PID Reading: 0.0 ppm
PID Reading: 0.4 ppm
Depth to Water (BTOC): 54.56
Screen Interval: 41-61 BLS
Sampling method: Bailer 2"
Sampling Equipment: Bailer 2"
Sampling Equipment Decontamination method:

Disposal only

Weather: cloudy warm 70s

Lab Analyses:
(including preservatives and filtering if applicable)

VOC 10/92 CLP — HCL
SVOCs 3/90 CLP — None
Metals (Total, Dissolved) 3/90 CLP — HNO3
TPH - GRO - HCL
TPH - DRO - None

QA/QC Samples:

Temp Blank
Trip Blank

Comments:
(including depth of pump if used for sampling)

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks DO	
0815	15.4	7.1	0.73	79	10.3	Clear
				MG		

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG
Client/Project: MANG
Sampled By: DB MC
Sample Start: (Date) 10 Jul 96 (Time) 1000
Background PID Reading: 0.0 ppm
Depth to Water (BTOC): 52.18
Screen Interval: 46'-60' BLS
Sampling method: Bailer 2"
Sampling Equipment: ↓
Sampling Equipment Decontamination method:
None Disposal

Well No. 6-MW3
Site: 6 Great Falls
Sample No: 6-MW3-GW2
Sample End: (Date) 10 Jul 96 (Time) 1008
PID Reading: 0.0 ppm

Weather: Sunny warm windy

Lab Analyses:
(including preservatives and filtering if applicable)

VOC 10/92 CLP- HCL
SVOC 3/90 CLP- none
(T/D) Metals 3/90 CLP- HNO3

TPH (GRO) 8015- HCL
TPH (DRO) 8015- none

QA/QC Samples:

Duplicate (6-MW3A-GW2)
Trip Blank
Temp Blank

Comments:
(including depth of pump if used for sampling)

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks DO mg/L	
1000	15.2	7.5	0.60	0.0	11.6	clear
			MG			

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG
Well No. 7 - mw 2 - Gw 2
Client/Project: MANG
Site: 7 Great Falls
Sampled By: DB / mG
Sample No: 7 - mw2 - Gw 2
Sample Start: (Date) 9 Jul 96 (Time) 1420
Sample End: (Date) 9 Jul 96 (Time) 1455
Background PID Reading: 0.8 ppm
PID Reading: 131.8 ppm
Depth to Water (BTOC): 53.38
Screen Interval: 42' - 62' BGS
Sampling method: Bailing
Sampling Equipment: Bailer 2"
Sampling Equipment Decontamination method:

None - Disposable

Weather:

70's Sunny

Lab Analyses:
(including preservatives and filtering if applicable)

VOC - 10/82 CLP - HCL
SVOC - 3/90 CLP - None
metals - 3/90 CLP - HNO3 (total, dissolved)
TPH - 8015 - HCL - DRO
None - GRO

QA/QC Samples:

None for samples
TB-A Trip Blank
Temp Blank

Comments:
(including depth of pump if used for sampling)

Stop @ 1450
Strong Hydrocarbon odor

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks DO	
1420	17.0	7.4	0.68	50	14.9	Clear

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG
Well No. 7- mw3
Client/Project: MANG
Site: 7 Great Falls
Sampled By: DB MG
Sample No: 7-mw3- GW 3
Sample Start: (Date) 11 Jul 96 (Time) 0650
Sample End: (Date) 11 Jul 96 (Time) 0700
Background PID Reading: 0.2 ppm
PID Reading: 0.0
Depth to Water (BTOC): 50.03
Screen Interval: 45'-65' BLS
Sampling method: 2" Bailer
Sampling Equipment: ↓
Sampling Equipment Decontamination method:
N/A Disposable of bailer

Weather: Sunny windy warm

Lab Analyses:
(including preservatives and filtering if applicable)
VOC 10/92 CLP – HCL   TPH 8015 – GRO – HCL / DRO – none
SVOC 3/90 CLP – none   metals 3/90 CLP (Total, dissolved)

QA/QC Samples:

Trip Blank

Temp Blank

Comments:
(including depth of pump if used for sampling)

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks Do mg/L	
0700	14.2	7.3	0.90	0.0	14.00	clear
			MG			

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG
Well No. 7- MW4
Client/Project: MANG
Site: 7 Great Falls
Sampled By: DB / MG
Sample No: 7-MW4- GW 2
Sample Start: (Date) 11Jul96 (Time) 0900
Sample End: (Date) 11Jul96 (Time) 0920
Background PID Reading: 0.0 ppm
PID Reading: 89.[illegible] ppm
Depth to Water (BTOC): 56.25
Screen Interval: 42' - 62' BLS
Sampling method: 2'' Bailer
Sampling Equipment: ↓
Sampling Equipment Decontamination method:
N/A Disposal of bailer

Weather: Sunny warm, windy.

Lab Analyses:
(including preservatives and filtering if applicable)
VOC 10/92 CLP - HCL
TPH- 8015- GRO - HCL, DRO - None
SVOC 3/90 CLP - None
Metals 3/90 CLP - HNO3 (Total, Dissolved)

QA/QC Samples:

Trip Blank

Temp Blank

Comments:
(including depth of pump if used for sampling)

(1) Strong Hydrocarbon Odor

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks DO mg/L	
0900	13.3	7.5	0.70	153	12.3	(1)

83

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG
Well No. 7-MW5-GW2
Client/Project: MANG
Site: 7 GREAT Falls
Sampled By: DB/MNG
Sample No: 7-MW5-GW2
Sample Start: (Date) 9Jul96 (Time) 1520
Sample End: (Date) 9Jul96 (Time) 1628
Background PID Reading: 0.8 ppm
PID Reading: 1.7 ppm
Depth to Water (BTOC): 53.53
Screen Interval: 43' - 63' BLS
Sampling method: Bailer 2"
Sampling Equipment: Bailer 2"
Sampling Equipment Decontamination method:
Disposal

Weather: 70's Sunny

Lab Analyses:
(including preservatives and filtering if applicable)

VOCs	10/92 CLP	HCL	TPH - DRO	—	
TPH	GRO	HCL	Metals	—	HNO3
SVOCs	3/90 CLP	—			

QA/QC Samples:

None for Samples

TB-B
Temp Blank

Comments:
(including depth of pump if used for sampling)

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks DO mg/L	
1600	19.8	7.2	0.61	6.0	13.69	Clear

MG

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG
Well No. 8- mw 1
Client/Project: MANG
Site: 8 GREAT FALLS
Sampled By: DB /mc
Sample No: 8-mw1 - GW2
Sample Start: (Date) 10Jul96 (Time) 1445
Sample End: (Date) 10Jul96 (Time) 1545
Background PID Reading: 0.0 ppm
PID Reading: 1.8 ppm
Depth to Water (BTOC): 52.38
Screen Interval:
Sampling method: Bailer 2"
Sampling Equipment: ↓
Sampling Equipment Decontamination method:
Disposal

Weather: Sunny, windy, warm

Lab Analyses:
(including preservatives and filtering if applicable)

VOC 10/92 CLP - HCl
SVOC 3/90 CLP - none
Metals 3/90 CLP - (Total Dissolved)
TPH - GRO - HCL - (Bols)
DRO - none

QA/QC Samples:

Trip Blanks
Temp Blank.

Comments:
(including depth of pump if used for sampling)

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks DO mg/L	
15 45	18.7	7.7	0.69	0.0	0.9	clear
				mc		

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

8-mw2A-6w2 (Duplicate)

Installation: MANG
Well No. 8-mw2-6w2
Client/Project: MANG
Site: 8 GREAT Falls
Sampled By: DB / ML
Sample No: 8-mw2-6w2/8-mw2A-6w2
Sample Start: (Date) 10 Jul 96 (Time) 1440
Sample End: (Date) 10 Jul 96 (Time) 1440
Background PID Reading: 0.0 ppm
PID Reading: 7.6 ppm
Depth to Water (BTOC): 51.49
Screen Interval:
Sampling method: Bailer 2"
Sampling Equipment: Bailer 2"
Sampling Equipment Decontamination method:

Disposal

Weather: cloudy warm 70's

Lab Analyses:
(including preservatives and filtering if applicable)

VOC 10/92 CLP - HCL
SVOCs 3/90 CLP - NONE
Metals (Total, Dissolved) 3/90 CLP - HNO3
TPH - GRO - HCL
TPH - DRO - NONE

QA/QC Samples:

Temp Blank
TB
(1) Duplicate sample taken.

Comments:
(including depth of pump if used for sampling)

Duplicate sample taken here

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks DO	
1325	17.5	7.7	0.96	0.0	13.9	Clear

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG
Well No. 8-MW3
Client/Project: MANG
Site: 8 GREAT Falls
Sampled By: DJ / MG
Sample No: 8-MW3-GW2
Sample Start: (Date) 10JUL96 (Time) 1440
Sample End: (Date) 10JUL96 (Time) 1445
Background PID Reading: 0.8 ppm
PID Reading: 1.8 ppm
Depth to Water (BTOC): 52.28
Screen Interval: 37' - 57' BGS
Sampling method: 2" Bailer
Sampling Equipment: ↓
Sampling Equipment Decontamination method:

Disposal

Weather: Sunny mild

Lab Analyses:
(including preservatives and filtering if applicable)

VOC CLP 10/92 - HCL
TPH - 8015 - GRO - HCL
— DRO - NONE
SVOC CLP 3/90 - NONE
metals - 3/90 CLP - Total - HNO3
Dissolved -

QA/QC Samples:

Temp Blank

Trip Blank (VOC)

Comments:
(including depth of pump if used for sampling)

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	~~Remarks~~ DO mg/L	
1445	18.3	7.6	0.55	0.8	12.1	clear

MG

OPERATIONAL TECHNOLOGIES
WELL SAMPLING LOG

Installation: MANG
Well No. 8-mw4
Client/Project: MANG
Site: 8 Great Falls
Sampled By: DD /mc
Sample No: 8-mw4-GW2
Sample Start: (Date) 11Jul96 (Time) 0800
Sample End: (Date) 11Jul96 (Time) 0835
Background PID Reading: 0.0 ppm
PID Reading: 9.8 ppm
Depth to Water (BTOC): 53.75
Screen Interval: 40'-60' BLS
Sampling method: 2" Bailer
Sampling Equipment: ↓
Sampling Equipment Decontamination method:

Disposal

Weather: Sunny, mild, windy

Lab Analyses:
(including preservatives and filtering if applicable)

Voc - 10/42 cLP - HCL
Svoc - 3/20 cLP - None
TPH - 8015 - GRO - HCL, DRO - None
Metals 3/20 cLP - Total / Dissolved - HNO3

QA/QC Samples:

Trip Blank - Voc
Temp Blank

Comments:
(including depth of pump if used for sampling)

Time	Temperature (oC)	pH	Conductivity (uS/cm)	Clarity/ Turbidity	Remarks DO mg/L	
0805	13.7	7.6	0.71	0.0	12.8	clear

APPENDIX D

QA/QC DISCUSSION

APPENDIX D
DATA QUALITY ASSESSMENT

1.0 INTRODUCTION

Chemical data are fundamental to understanding contamination and its impact on human health and the environment. These data support decisions regarding the need for remedial action and influence the selection of remedial alternatives. Data regarding contaminant concentrations in the environment contain uncertainties resulting from both variability and error.

The purpose of this appendix is to evaluate the chemical data collected during the Remedial Investigation (RI) at the Montana Air National Guard, Great Falls, Montana, and to assess the ability of the data to meet the project specific data quality objectives (DQOs) identified in the project Work Plan (WP). The data quality assessment (DQA) methodology presented in this appendix includes a discussion of validation of the data, and a review of data accuracy, precision, representativeness, completeness, and comparability. Validated chemical data are presented in Appendix E.

2.0 DATA QUALITY OBJECTIVES

The purpose of the RI was to determine the nature and extent of contamination from known and/or suspected chemicals of concern at four Installation Restoration Program (IRP) sites. The sampling effort consisted of two rounds of groundwater sampling conducted in May and July 1996; and surface and subsurface soil sampling at each of the four sites. Data Quality Objectives (DQOs) for the RI are discussed in Section 3 of Appendix B (Quality Assurance Project Plan) of the RI WP.

All chemical data for this project were generated as definitive level data with abbreviated laboratory data package deliverables (HAZWRAP Level C deliverables). Due to problems with the operation of the field gas chromatograph, screening level data were not generated for this project as proposed in the RI WP. Samples proposed for quick turn-around field screening analysis of volatile organic compounds were analyzed by the fixed-base laboratory with results provided within 48 hours.

3.0 ANALYTICAL PROGRAM

3.1 Analytical Methods

Soil and groundwater samples were analyzed according to analytical methods specified in the WP. Analysis of volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs) were performed in accordance with *USEPA Contract Laboratory Program Statement of Work for Organic Analysis (OLM01.8)* and *USEPA Contract Laboratory Program Statement of Work for Low Concentration Water for Organics Analysis (OLC02.0)*. The target compound list specified in OLM01.8 was reported for VOCs in soil, and SVOCs in soil and water. The target compound list specified in OLC02.0 was reported for VOCs in water.

The priority pollutant metals, plus barium, were analyzed according to *USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis (ILM03.0)*. Groundwater samples were analyzed for total and dissolved metals. Analysis of total petroleum hydrocarbons (TPH), including gasoline, diesel, oil, and JP-4 fractions, were performed according to SW-846 Method 8015

(modified). Purge and trap sample preparation (Method SW-5030) was used for gasoline-range TPH, and extractable TPH fractions were prepared using Method SW-3550 for soils and SW-3520 for waters.

3.2 Analytical Laboratory and Reporting Requirements

All samples for this investigation were submitted to Laucks Testing Laboratories, Inc., in Seattle, Washington for analysis. Laucks is a HAZWRAP-recommended laboratory that has successfully completed the HAZWRAP laboratory review process. HAZWRAP Level C laboratory deliverables specified in Table 10.2 of the WP were provided.

All soil sample results are reported on a dry weight basis. Moisture content of soil samples is reported on the analytical data tables located in Appendix E.

4.0 FIELD QUALITY CONTROL SAMPLES

Field quality control samples, including field duplicates, field blanks, equipment rinsates, and trip blanks, were submitted to the laboratory to provide a means of assessing the quality of the data resulting from the field sampling program. Results for field QC samples are included in Appendix E.

4.1 Trip Blanks

Trip blanks were analyzed to assess potential VOC contamination during shipping and handling. Trip blanks were supplied by the laboratory, and consisted of ASTM Type II organic-free water that is preserved to pH <2 with hydrochloric acid. A trip blank was included in each sample cooler that contained environmental samples for VOC analysis. A total of 32 trip blanks were analyzed during the RI.

No significant contamination problems associated with sample shipping and handling were indicated based on trip blank results. Trip blanks were analyzed for VOCs only.

4.2 Field Blanks

Field blank samples were collected during each round of sampling from each of the water sources used for sampling equipment decontamination. Field blanks were analyzed to provide information concerning the quality of potable and ASTM Type II water used for decontamination of sampling equipment. A total of four field blanks, two from each sampling round, were analyzed for all analytical parameters. Field blanks collected during the first round of sampling are identified as MANG-FB1-DI (ASTM Type II water) and MANG-FB2-PW (potable water). Field blanks collected during the second round of groundwater sampling are identified as FB-PW-GW2 (potable water) and FB-DI-GW2 (ASTM Type II water).

Potable water field blank samples did contain some contaminants, however, because significant levels of contaminants were not detected in equipment rinsates, sampling equipment appears to have been sufficiently decontaminated. Therefore, levels of contaminants in potable water blanks have not adversely affected sample results.

4.3 Equipment Rinsates

Equipment rinsates were analyzed to measure the effectivesness of the decontamination process. Equipment rinsates are samples of the final analyte-free (ASTM Type II) water used in rinsing decontaminated sampling equipment. HAZWRAP specifies that equipment rinsates be collected at a frequency of one per ten investigative samples collected per sample matrix. A total of four equipment rinsates (8-RB1, 6-RB1, 7-RB1, and 8-RB2) were collected during first round soil sampling. Equipment rinsates were not collected during groundwater sampling because dedicated sampling equipment was used, and decontamination of equipment was not performed. Equipment rinsates were analyzed for all analytical parameters.

Equipment rinsate results indicate that decontamination procedures of sampling equipment were adequate.

4.4 Field Duplicates

Field duplicate samples are collected to give an indication of the variability of sample handling, preservation, storage, and the analytical process. Field duplicates may also provide an indication of the degree of variability within the sample matrix. HAZWRAP specifies that field duplicates shall be collected at a frequency of ten percent per matrix. A total of four field duplicate pairs were collected for groundwater, two in each round of sampling. Because of poor sample recovery, no field duplicate samples were collected for soils.

Field duplicate results are discussed in Section 6.1.2.

5.0 DATA VALIDATION PROCEDURES

All environmental sample results, including field duplicates, were validated according to procedures specified in the WP. Field quality control samples, including trip blanks, field blanks, and equipment rinsates, were not validated; however, results for these samples were used in assessing environmental sample results. Results from the potable water field blanks were not used to qualify environmental samples. Decontamination water analyses (samples DCPW-1 and PAPW-1), and Toxicity Characteristic Leaching Procedure (TCLP) results were also not validated.

USEPA Contract Laboratory Program Functional Guidelines for Organic Data Review (February 1994), and *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (February 1994), were used for VOC and SVOC, and metals results, respectively. HAZWRAP Level C validation guidelines for gas chromatography methods were used for validation of TPH results. Data validation was performed at HAZWRAP Level C by the Analytical Environmental Support Group of Lockheed Martin Energy Systems in Oak Ridge, Tennessee. A list of the environmental and field QC samples analyzed, and their associated Sample Delivery Groups (SDGs) are provided in Table D-1.

Data validation included completing validation worksheets with documentation on the review of all required criteria and recording specific reasons for all validation qualifiers applied. Validated laboratory Form Is are attached to the validation worksheets. The following definitions provide a brief explanation of the meaning of qualifiers assigned to sample results during data validation:

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantiation limit is approximate and may or may not represent the actual limit of quantiation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

If multiple analyses were reported by the laboratory because analytes exceeded the instrument calibration range or reanalysis was required due to laboratory QC problems, the best result for each analyte has been incorporated into one set of results for each sample parameter and is reported in Appendix E as the "composite result".

5.1 VOC Data Validation

Holding times were met for all sample analyses. Several samples in Sample Delivery Group (SDG) OP11X were qualified as estimated (J/UJ) due to elevated cooler temperatures (10.5 - 12.7°C) at the time of laboratory receipt. Nondetected results for two monitoring well samples (1-MW1-GW2 and 7-MW4-GW2) were rejected (R) because recorded cooler temperatures exceeded 20°C at the time of laboratory receipt.

Instrument tuning criteria were met for all sample analyses. Internal standard area criteria were met for all samples with the exception of 6-MW3-20.5. Low area counts were reported for all three internal standards for this sample, requiring all VOC compounds to be estimated (J/UJ).

Several compounds exhibited low relative response factors (RRF) during initial calibrations (ICAL), requiring the estimation of detected compounds (J), and rejection (R) of nondetected compounds. This was specifically a problem with several ketones (acetone, 2-butanone, and 2-hexanone), and 1,2-dibromo-3-chloropropane during the analysis of low-level VOCs in water samples. Compounds that exceeded percent difference (%D) criteria for continuing calibrations were qualified as estimated (J/UJ).

Low levels of target compounds were detected in laboratory method and storage blanks, and associated trip blanks, field blanks and equipment rinsates. Laboratory blank contamination was generally limited to the common laboratory contaminants methylene chloride (0.11-2.0 ppb) and acetone (1-5 ppb). Occasional detections of carbon sulfide (1 ppb), toluene (0.01-0.05 ppb), and trichloroethene (0.41 ppb) were also observed in laboratory blanks. Associated field QC blanks

reported low levels of several VOCs. The 5X/10X rule was used in qualifying environmental samples based on laboratory and field blank contamination. Overall, the levels of contamination in laboratory and field QC blanks were not significant.

Results for three samples were estimated (J/UJ) because one or more surrogate recoveries exceeded QC limits. Samples affected were 6-SB18 8-8.3, 6-SB15 7.7-8.1, and 6-DW1 4.1-4.6. All laboratory control sample (LCS) analyses for low-level VOCs in water were within QC limits. One or more matrix spike compounds exceeded percent recovery (%R) or relative percent difference (RPD) limits for four soil matrix spike/matrix spike duplicate (MS/MSD) pairs. Because no action is taken based on MS/MSD results alone, samples were not qualified due to MS/MSD results.

5.2 SVOC Data Validation

All samples were extracted and analyzed within required holding times. Instrument tuning, initial calibration, and internal standard area criteria were for all sample analyses. All 3,3'-dichlorobenzidine results for samples reported in SDGs OP01X, OP02X, OP03X, OP05X, and OP07X are qualified as estimated (J/UJ) because %D criteria were not met for continuing calibrations. Di-n-octylphthalate results for samples in SDG OP10X were qualified as estimated (J/UJ) for the same reason.

Most laboratory blank contamination was due to common phthalate esthers, including bis(2-ethylhexyl)phthalate (1-11 ppb) and di-n-butylphthalate (1-9 ppb). Bis(2-ethylhexyl)phthalate was reported in the medium level soil extraction blank for SDG OP10X at 2400 ppb. Phenol was reported in two soil extraction blanks at 97 and 47 ppb.

Field QC blanks reported phthalates, including bis(2-ethylhexyl)phthalate, butylbenzylphthalate, di-n-butylphthalate, and di-n-octylphthalate. The 5X/10X rule was used in qualifying environmental samples based on laboratory and field blank contamination. Overall, the levels of SVOC contamination in laboratory and field QC samples were not significant.

No sample results required qualification based on surrogate recoveries. One or more %R and/or RPD were not met for four MS/MSD pairs. Because no action is taken based on MS/MSD results alone, samples were not qualified due to MS/MSD results.

5.3 TPH - Gasoline Range Organics (GRO) Data Validation

Holding times were met for all TPH-GRO analyses. Results for all samples in SDG OP10X, and most samples in SDG OP11X were qualified as estimated due to elevated sample cooler temperatures at the time of laboratory receipt. One sample result in SDG OP11X (1-MW1-GW2) was rejected because the sample cooler temperature exceeded 20°C at the time of receipt.

All initial and continuing calibrations, and MS/MSD analyses met QC criteria. Gasoline-range TPH was not detected in laboratory or field QC blanks.

Because one or both surrogate recoveries did not meet QC criteria, the following sample results were estimated: 7-SB7 8-8.3, 6-SB17 0.5-2.5, 6-SB17 9.5-9.9,6-SB17 4.5-5.8, and 6-DW1 4.1-4.6.

TPH-GRO analysis quantitation is based on all peaks within a retention time window established by using a gasoline standard. In addition to quantiation, the peaks are evaluated for a pattern similar to the pattern associated with the standard. Laboratory data packages for this project noted that a distinctive gasoline pattern was not observed in all samples reported with detectable purgeable organic material in the gasoline range. Because gasoline results were quantiated using the area of all components from toluene through dodecane, it is possible to report positive results for the presence of gasoline in the sample analysis due to any purgeable organic material that my be present in this range. For this reason, detected TPH-GRO results that have been so noted by the laboratory have been qualified "NJ".

5.4 TPH - Diesel Range Organics (DRO)/Motor Oil Data Validation

All samples were extracted and analyzed within holding times. Initial and continuing calibration criteria were met for all sample analyses, and DRO/motor oil was not detected in laboratory or field QC blanks.

Surrogate recoveries were within laboratory QC limits for all samples except those that required dilution of the sample extract. Surrogate compounds for these samples were diluted out and recoveries were below QC limits. Since surrogates were diluted out to bring the environmental sample concentration within the calibration range, and the results of two surrogate compounds do not necessarily reflect the behavior of the entire class of compounds, results were not qualified based on low surrogate recoveries for diluted samples.

All MS/MSD %R and RPD results were within QC criteria with the exception of one %R and one RPD value. Sample results were not qualified based on MS/MSD results.

Diesel-range TPH results were quantitated using the area of all components from n-C12 to n-C24, and motor oil TPH results were quantitated using the area of all components from n-C24 to n-C40. Laboratory data packages noted that a distinctive diesel and/or motor oil pattern was not observed for all samples reported with detectable organic material for these fractions. Because it is possible to report positive results for the presence of diesel and motor oil in the sample analysis due to any extractable organic material that may be present in these ranges, detected diesel and motor oil results that have been so noted by the laboratory have been qualified "NJ".

5.5 TPH-JP4 Data Validation

All samples were extracted and analyzed within holding times. Initial and continuing calibration criteria were met for all sample analyses, and TPH-JP4 was not detected in laboratory of field QC blanks.

The JP4 result for sample 8-MW3-GW2 was estimated (UJ) due to low surrogate recovery (46%). All other surrogate recoveries were within laboratory QC limits except for samples that required dilution of the extract prior to analysis. The surrogate compound for these samples was diluted out and recoveries were below QC limits. Since the surrogate was diluted out to bring the environmental sample concentration within the calibration range, and the result of one surrogate compound does not necessarily reflect the behavior of the entire class of compounds, results were not qualified based on low surrogate recoveries for diluted samples.

MS/MSD analysis was not performed for TPH-JP4. Because the project WP did not require MS/MSD analysis for TPH fractions, and since data are not qualified based on MS/MSD results alone, no action was taken.

5.6 Metals Data Validation

Holding times were met for all sample analyses. Requirements for instrument calibration, and initial and continuing calibration verification were met for all analyses.

Several metals were frequently detected at low concentrations in associated laboratory preparation and instrument blanks. Detections did not exceed the Contract Required Detection Limit (CRDL), and the 5X rule for blank contamination was following during data validation.

Field QC blanks (field blanks and equipment rinsates) also reported detectable concentrations of several analytes. Because laboratory blanks reported similar levels of contamination and were used to qualify samples according to the 5X rule, no sample results were qualified based on field QC blank results.

Matrix spike %Rs were not within QC limits for several MS analyses. Sample results for selenium and antimony were frequently qualified as estimated (J/UJ) due to low MS recoveries. For SDG OP10X, all results for antimony, arsenic, barium and chromium were estimated based on MS %Rs. Thallium results in SDGs OP05X and OP08X were estimated because %Rs were slightly below QC limits.

All LCS recoveries were within QC limits with the exception of the aqueous LCS for thallium in SDG OP02X. As a result, the thallium result for sample 6-DW1-W1 is estimated.

Laboratory duplicate precision criteria were met for all duplicate analyses with the exception of chromium in SDG OP10X. For this reason, chromium results for all samples in this SDG are estimated.

Inductively Coupled Plasma (ICP) serial dilution criteria were met for all SDGs, except zinc in OP09X (total metals). As a result, the zinc result for sample 1-MW2-GW3 is estimated.

Graphite Furnace Atomic Absorption (GFAA) analytical spike criteria were frequently outside QC limits for arsenic, selenium thallium, and antimony. As a result, affected sample results have been qualified as estimated (J/UJ).

Following data validation, results that were reported with a "B" qualifier by the laboratory, indicating that the reported result was between the Instrument Detection Limit (IDL) and the CRDL, were qualified "J".

6.0 PRECISION, ACCURACY, REPRESENTATIVENESS, COMPARABILITY AND COMPLETENESS (PARCC) PARAMETERS

The quality of chemical data can be determined by reviewing the parameters accuracy, precision, and representativeness. The completeness and comparability parameters also measure data quality, but to a lesser extent. This section discusses the PARCC parameter results for validated environmental samples collected during the RI. PARCC parameter objectives are discussed in Section 5.0 of the Quality Assurance Project Plan (QAPP). The QAPP is included in the RI Work Plan as Appendix B.

6.1 Precision

Precision defines the variability between multiple measurements resulting from the same process. For chemical analyses, precision is determined by analyzing duplicate samples and calculating the relative percent difference (RPD) between results.

6.1.1 Laboratory Precision

Laboratory precision in organic analyses (VOC, SVOC, and TPH) is determined through comparison of MS/MSD samples, and is expressed as RPD between results. The low level Contract Laboratory Program (CLP) method for VOCs in water does not require the analysis of MS/MSD samples, but instead reports the results of an LCS containing twelve of the target VOCs. Because no duplicate analysis is performed, laboratory precision for aqueous VOCs is not determined.

The project WP did not require the analysis of MS/MSD samples for TPH fractions. Because the laboratory did perform MS/MSD analysis for TPH-GRO and TPH-DRO/Oil fractions, laboratory precision was determined for these parameters. The laboratory did not analyze MS/MSD samples for TPH-JP4. Laboratory precision for organic parameters is summarized below.

Parameter	# MS/MSD pairs	RPDs outside criteria	% RPDs within criteria
VOC	Soil - 8	4 of 40	90
SVOC	Soil - 4 Water - 4	1 of 44 0 of 44	97.7 100
TPH-GRO	Soil - 4 Water - 6	0 of 4 0 of 6	100 100
TPH-DRO/Oil	Soil - 4 Water - 3	0 of 4 0 of 3	100 100

Overall laboratory precision for organic parameters (excluding TPH-JP4 and aqueous VOCs) is 96.6%.

Laboratory precision for metals analysis is determined through comparison of unspiked duplicate samples. A total of four laboratory duplicate pairs were analyzed for soil, and six for water. RPD criteria were met for all duplicate analyses, with the exception of chromium for one soil duplicate analysis. A total of 99.3% of laboratory results for metals met duplicate RPD criteria.

Overall, laboratory precision for organic and inorganic analyses shows that 98.0% of MS/MSD and sample duplicate results performed by the laboratory met precision criteria. This meets the overall goal for laboratory precision of 90% specified in the QAPP.

6.1.2 Sampling Precision

Sampling precision is measured through the analysis of field duplicate samples. As is noted in Section 4.4, field duplicate samples were not collected for soils, therefore sampling precision cannot be determined for soil samples collected during the RI. The following groundwater field duplicates were collected:

Sample ID	Field Duplicate ID
1-MW2-GW2	1-MW2-GW2A
7-MW3-GW2	7-MW3-GW2A
8-MW2-GW2	8-MW2A-GW2
6-MW3-GW2	6-MW3A-GW2

Field duplicate precision for groundwater samples was evaluated using the following acceptance criteria:

- If both results are >5X the CRDL/CRQL, the RPD must be $\leq$ 40.
- If one or both results are <5X the CRDL/CRQL, the difference between the two results must be $\leq$2X the CRDL/CRQL.

All field duplicate results met the above criteria for all parameters with the exception of TPH. For field duplicates 6-MW3-GW2 and 6-MW3A-GW2, precision criteria was not met for TPH-Diesel (RPD = 102) and TPH-JP4 (RPD = 107). For field duplicate pairs, 99.6% of the results met precision criteria. Total precision (laboratory precision and sampling precision) for the RI is determined to be 98.8%, which meets the goal of 90% specified in the WP, and indicates that sample results for the RI may be considered precise.

6.2 Accuracy

Accuracy defines how close a measured parameter is to its true value. For organic methods (VOC, SVOC, and TPH), accuracy is evaluated through the analysis of surrogate compounds and select target compounds added to the samples. The accuracy of all target compounds is determined from how well these compounds are recovered. A total of 94.0% of organic MS/MSD, LCS, and surrogate recoveries met the criteria for accuracy specified in the WP. Organic accuracy results are summarized below.

Accuracy - Organic Parameters

Parameter	MS/MSD %Rs outside criteria	Surrogate %Rs outside criteria	Percentage of %Rs and surrogates within criteria
VOC	Soil: 18 of 80 *Water: 0 of 72	Soil: 3 of 144 Water: 0 of 34	Soil: 90.6 Water: 100
SVOC	Soil: 1 of 88 Water: 20 of 88	Soil: 3 of 344 Water: 0 of 248	Soil: 99.1 Water: 94.0
TPH-GRO	Soil: 0 of 8 Water: 0 of 12	Soil: 7 of 86 Water: 0 of 62	Soil: 92.6 Water: 100
TPH-Diesel/Oil	Soil: 1 of 8 Water : 0 of 6	Soil: 14 of 86 Water: 0 of 62	Soil: 84.0 Water: 100
TPH-JP4	Not applicable	Soil: 6 of 43 Water: 2 of 31	Soil: 86.0 Water: 93.5

* MS/MSD analysis is not required for low-level VOCs in water. The percent recoveries reported are for aqueous LCS recoveries.

The majority of aqueous MS/MSD recoveries that were outside QC criteria for SVOC analysis were due to recoveries that slightly exceeded the upper QC limit. These exceedances are probably not due to matrix interferences, but to better laboratory extraction efficiencies than have been established by CLP method QC control limits. The accuracy of aqueous SVOC results should not be affected due to MS/MSD recoveries.

For metals analysis, accuracy is evaluated through the percent recoveries of matrix spikes and LCSs. Nine aqueous, and four solid LCSs were analyzed for metals. Percent recoveries were met for all solid LCSs. For one aqueous LCS, the %R for thallium was slightly below QC limits.

A total of four soil, and six aqueous matrix spike samples were analyzed for metals. Eleven of 56 soil, and six of 84 aqueous spike results did not meet %R criteria. Most of the results that were outside criteria were due to low recoveries of antimony, selenium, and thallium, indicating that reported sample results for these metals may be biased low. Overall, 94.4% of matrix spike and LCS recoveries for metals met the accuracy criteria specified in the WP.

Overall analytical accuracy for all parameters analyzed for the project is 94.2%, which meets the 90% accuracy goal specified in the WP, and indicates that sample results generated for the RI may be considered accurate.

6.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness of the data was ensured by using proper sampling techniques and analytical procedures.

Samples were collected according to procedures specified in the RI WP. To ensure sample integrity, aqueous samples were chemically preserved (if required) at the time of collection. All samples, with the exception of aqueous metals, were maintained at $4\pm2°C$ until analyzed. Samples that did not meet temperature preservation requirements were qualified, if necessary, during data validation. Field QC samples, including trip blanks, field blanks, and equipment rinsates, were analyzed to evaluate the possiblity of cross-contamination during sample collection and shipping. Results of field QC samples were evaluated during data validation, and used to qualify environmental samples when required.

Samples were analyzed according to approved USEPA methodology within required holding times. Method blanks or preparation blanks (for organic or inorganic analysis, respectively) were prepared and analyzed at the laboratory along with environmental sampes to provide a means of assessing contamination that may have been introduced during sample preparation and analysis. Results of laboratory blank analyses were used during data validation, and used to qualify environmental sample results when required.

6.4 Comparability

Comparability is a quantitative parameter expressing the confidence with which one data set can be compared to another, and is limited to the other PARCC parameters, because only when precision and accuracy are known, can data be compared with confidence.

Analytical data for the RI were generated according to approved USEPA procedures which specify required processes that will ensure that data of known quality will be generated. The laboratory adhered to these requirements, which include: holding times, GC/MS tuning, initial and continuing calibrations, surrogate recoveries, MS/MSD recoveries, LCS recoveries, method blanks, internal standards, and detection limits.

Standard reference materials, traceable to the National Institute of Standards and Technology (NIST) were used for instrument calibration. In addition, the laboratory successfully analyzed a performance evaluation (PE) sample submitted by Lockheed Martin Energy Systems. As a result, analytical data generated for the RI should be comparable with other measurement data for similar samples and conditions.

6.5 Completeness

Completeness is an evaluation of the percentage of measurements judged to be valid, and is measured following data validation. Data qualified as a result of validation can be considered valid data, but rejected points are not valid. Completeness for the RI was determined as the number of valid data points for environmental samples (including field duplicates) compared to the total number of data points analyzed and reported.

A total of 131 of 9404 environmental sample data points generated for the RI were rejected during data validation. All rejected data points were VOCs in water samples. Eighty-six of these points were results for acetone, 2-butanone, 2-hexanone, and 1,2-dibromo-3-chloropropane that were rejected due to low RRFs during GC/MS calibration. The remaining results were rejected due to elevated sample cooler temperatures at the time of receipt at the laboratory.

Of the total environmental data points generated for the RI, 98.6% are valid (useable). This meets the completeness objective of 90% specified in the RI WP.

7.0 OVERALL DATA QUALITY

Environmental samples were collected and analyzed according to the procedures specified in the WP. Holding times were met for all environmental samples for all parameters. All samples that were collected, with the exception of one equipment rinsate, were analyzed and reported by the laboratory. Trip blanks, field blanks, and groundwater field duplicate samples were collected and analyzed at the required frequency. Field duplicates were not collected for soil samples. Four equipment rinsates were collected during soil sampling, resulting in a 12% frequency of collection. Because dedicated sampling equipment was used for groundwater sampling, equipment rinsates were not collected for water samples.

Data limitations include the limited number of ketone (acetone, 2-butanone, and 2-hexanone) and 1,2-dibromo-3-chloropropane results for aqueous samples that were not rejected during validation. Due to the poor purging efficiency for the compounds, and resulting low RRFs, these compounds were rejected.

Overall, the quality of analytical data generated for this project is very good. The percentages of data that met the objectives for accuracy, precision, and completeness specified in the RI WP, exceeded project goals. Therefore, the data generated for this project is sufficient for making decisions regarding any further actions at the IRP sites investigated during the RI.

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Table D-1

Sample ID	SDG	VOC	SVOC	TPH-GRO	TPH-Extractable	Total Metals	Dissolved Metals
8-SB6-0.5-2.4	OP01X	X	X	X	X	X	NA
8-SB6-4.5-5.7	OP01X	X	X	X	X	X	NA
8-SB6-9.5-10.3	OP01X	X	X	X	X	X	NA
8-SB7-0.5-2.5	OP01X	X	X	X	X	X	NA
8-SB7-4.5-5.8	OP01X	X	X	X	X	X	NA
8-SB7-8.9-10.3	OP01X	X	X	X	X	X	NA
8-SB8-0.5-2.5	OP01X	X	X	X	X	X	NA
8-SB8-4.5-5.5	OP01X	X	X	X	X	X	NA
8-SB8-9.5-10.5	OP01X	X	X	X	X	X	NA
8-RB1	OP01X	X	X	X	X	X	NA
8-TB1	OP01X	X	NA	NA	NA	NA	NA
8-TB2	OP01X	X	NA	NA	NA	NA	NA
6-SB15-0.5-2.5	OP01X	X	X	X	X	X	NA
6-SB15-2.5-4	OP01X	X	X	X	X	X	NA
6-SB15-7.7-8.1	OP01X	X	X	X	X	X	NA
6-SB17-0.5-2.5	OP02X	X	X	X	X	X	NA
6-SB17-4.5-5.8	OP02X	X	X	X	X	X	NA
6-SB17-9.5-9.9	OP02X	X	X	X	X	X	NA
6-SB18-0.5-2.5	OP01X	X	X	X	X	X	NA
6-SB18-6.4-7.3	OP01X	X	X	X	X	X	NA
6-SB18-8-8.3	OP01X	X	X	X	X	X	NA
6-RB1	OP02X	X	X	X	NA	X	NA
6-TB1	OP01X	X	NA	NA	NA	NA	NA
6-TB2	OP02X	X	X	X	X	X	NA
6-DW1-4.1-4.6	OP03X	X	X	X	X	X	NA
6-DW1-7.3-7.6	OP03X	X	X	X	X	X	NA
7-SB5-1-3	OP03X	X	X	X	X	X	NA
7-SB1-4.5-5.4	OP03X	X	X	X	X	X	NA
7-SB5-8-8.6	OP03X	X	X	X	X	X	NA
7-SB6-0-2	OP02X	X	X	X	X	X	NA
7-SB6-3.5-5.5	OP02X	X	X	X	X	X	NA
7-SB6-7.2-8	OP02X	X	X	X	X	X	NA
7-SB7-1-3	OP02X	X	X	X	X	X	NA
7-SB7-3.4-5.2	OP02X	X	X	X	X	X	NA
7-SB7-8-8.3	OP02X	X	X	X	X	X	NA
7-DW1-1.2-3.2	OP02X	X	X	X	X	X	NA
7-DW1-3.2-4.2	OP02X	X	X	X	X	X	NA
7-TB1	OP03X	X	NA	NA	NA	NA	NA
7-TB2	OP02X	X	NA	NA	NA	NA	NA
6-DW1-W1	OP02X	X	X	X	X	X	NA
6-TB3	OP02X	X	NA	NA	NA	NA	NA
7-RB1	OP02X	X	X	X	X	X	NA
7-TB3	OP02X	X	NA	NA	NA	NA	NA
6-SB16-0.9-3.9	OP03X	X	X	X	X	X	NA
6-SB16-3.9-4.5	OP03X	X	X	X	X	X	NA
6-SB16-8.5-9.5	OP03X	X	X	X	X	X	NA
8-SB9-1-3	OP03X	X	X	X	X	X	NA
8-SB9-4.5-5.5	OP03X	X	X	X	X	X	NA
8-SB9-8.5-9.4	OP03X	X	X	X	X	X	NA
8-SB10-1-3	OP03X	X	X	X	X	X	NA

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Sample ID	SDG	VOC	SVOC	TPH-GRO	TPH-Extractable	Total Metals	Dissolved Metals
8-SB10-4.5-6.5	OP03X	X	X	X	X	X	NA
8-SB10-9-9.9	OP03X	X	X	X	X	X	NA
8-RB2	OP03X	X	X	X	X	X	NA
8-TB3	OP03X	X	NA	NA	NA	NA	NA
8-TB4	OP03X	X	NA	NA	NA	NA	NA
MANG-FB1-DI	OP04X	X	X	X	X	X	NA
MANG-FB2-PW	OP04X	X	X	X	X	X	NA
FB-TB1	OP04X	X	NA	NA	NA	NA	NA
6-MW2-20	OP04X	X	NA	NA	NA	NA	NA
6-MW3-20.5	OP04X	X	NA	NA	NA	NA	NA
7-MW2-20.5	OP04X	X	NA	NA	NA	NA	NA
7-MW4-20.5	OP04X	X	NA	NA	NA	NA	NA
7-MW5-20.5	OP04X	X	NA	NA	NA	NA	NA
7-TBA	OP04X	X	NA	NA	NA	NA	NA
1-MW2-GW1	OP04X	X	NA	NA	NA	NA	NA
7-MW3-GW1	OP04X	X	NA	NA	NA	NA	NA
6-MW1-GW1	OP04X	X	NA	NA	NA	NA	NA
6/7-TB1	OP04X	X	NA	NA	NA	NA	NA
7-MW4-GW1	OP05X	X	X	X	X	X	X
7-MW5-GW1	OP05X	X	X	X	X	X	X
TB-C	OP05X	X	NA	NA	NA	NA	NA
7-MW2-GW1	OP05X	X	X	X	X	X	X
6-MW2-GW1	OP05X	X	X	X	X	X	X
TB-B	OP05X	X	NA	NA	NA	NA	NA
8-MW2-GW1	OP07X	X	X	X	X	X	X
8-MW4-GW1	OP07X	X	X	X	X	X	X
TB-D	OP07X	X	NA	NA	NA	NA	NA
6-MW1-GW2	OP07X	X	X	X	X	X	X
G-MW3-GW1	OP07X	X	X	X	X	X	X
TB-E	OP07X	X	NA	NA	NA	NA	NA
8-MW2-GW1	OP07X	X	X	X	X	X	X
8-MW3-GW1	OP07X	X	X	X	X	X	X
TB-F	OP07X	X	NA	NA	NA	NA	NA
7-MW3-GW2	OP07X	X	X	X	X	X	X
7-MW3-GW2A	OP07X	X	X	X	X	X	X
TB-G	OP07X	X	NA	NA	NA	NA	NA
1-MW2-GW2	OP08X	X	X	X	X	X	X
1-MW2-GW2A	OP08X	X	X	X	X	X	X
TB-H	OP08X	X	NA	NA	NA	NA	NA
1-MW1-GW1	OP08X	X	X	X	X	X	X
TB-I	OP08X	X	NA	NA	NA	NA	NA
7-MW5-GW2	OP09X	X	X	X	X	X	X
TB-B	OP09X	X	NA	NA	NA	NA	NA
1-MW2-GW3	OP09X	X	X	X	X	X	X
7-MW2-GW2	OP09X	X	X	X	X	X	X
TB-A	OP09X	X	NA	NA	NA	NA	NA
6-MW1-GW3	OP09X	X	X	X	X	X	X
6-MW2-GW2	OP09X	X	X	X	X	X	X
TB-C	OP09X	X	NA	NA	NA	NA	NA
8-MW2-GW2	OP09X	X	X	X	X	X	X

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Sample ID	SDG	VOC	SVOC	TPH-GRO	TPH-Extractable	Total Metals	Dissolved Metals
8-MW2A-GW2	OP09X	X	X	X	X	X	X
TB-E	OP09X	X	NA	NA	NA	NA	NA
8-MW1-GW1	OP09X	X	X	X	X	X	X
8-MW3-GW2	OP09X	X	X	X	X	X	X
TB-F	OP09X	X	NA	NA	NA	NA	NA
6-MW3-GW2	OP09X	X	X	X	X	X	X
6-MW3A-GW2	OP09X	X	X	X	X	X	X
TB-D	OP09X	X	NA	NA	NA	NA	NA
DCPW-1	OP11X	X	X	X	X	X	NA
PADW-1	OP11X	X	X	X	X	X	NA
TB-I	OP11X	X	NA	NA	NA	NA	NA
FB-DI-GW2	OP11X	X	X	X	X	X	NA
FB-PW-GW2	OP11X	X	X	X	X	X	NA
TB-G	OP11X	X	NA	NA	NA	NA	NA
8-MW4-GW2	OP11X	X	X	X	X	X	X
7-MW3-GW3	OP11X	X	X	X	X	X	X
TB-J	OP11X	X	NA	NA	NA	NA	NA
1-MW1-GW2	OP11X	X	X	X	X	X	X
7-MW4-GW2	OP11X	X	X	X	X	X	X
TB-H	OP11X	X	NA	NA	NA	NA	NA
MANG-SS1-0-1	OP10X	X	X	X	X	X	NA
MANG-SS2-0-1	OP10X	X	X	X	X	X	NA
MANG-SS3-0-1	OP10X	X	X	X	X	X	NA
TB-K	OP10X	X	NA	NA	NA	NA	NA

APPENDIX E

ANALYTICAL DATA SUMMARIES AND VALIDATION

Note: "D" - In addition to the data qualifiers listed and discussed in Appendix D the "D" flag for dilution is defined. When one or more compound in a sample has a response that exceeds the initial calibration range of the instrument for that specific analysis the sample or extract will require dilution and reanalysis. When this occurs, all such compounds on the Form I are required to be flagged with a "D" flag for dilution.

Volatile Organic Compounds						
Site		8	8	8	6	8
Location						SB8
Sample Depth						9.5-10.5
Sample Number		8-TB2	8-TB1	8-RB1	6-TB1	8-SB8-9.5-10.5
Laboratory Sample ID		9604771-05	9604771-12	9604771-01	9604798-07	9604771-06
Matrix		water	water	water	water	soil
Date Sampled		4/25/96	4/25/96	4/25/96	4/26/96	4/25/96
Date Analyzed		5/1/96	5/1/96	5/1/96	5/1/96	5/2/96
	CRQL					
Chloromethane	10	10 U	10 U	10 U	10 U	1300 U
Vinyl Chloride	10	10 U	10 U	10 U	10 U	1300 U
Bromomethane	10	10 U	10 U	10 U	10 U	1300 U
Chloroethane	10	10 U	10 U	10 U	10 U	1300 U
1,1-Dichloroethene	10	10 U	10 U	10 U	10 U	1300 U
Acetone	10	10 U	10 U	4 J	10 U	820 J
Carbon Disulfide	10	10 U	10 U	10 U	10 U	1300 U
Methylene Chloride	10	10 U	10 U	2 J	10 U	77 J
1,1-Dichloroethane	10	10 U	10 U	10 U	10 U	1300 U
2-Butanone	10	10 U	10 U	10 U	10 U	1300 U
Chloroform	10	10 U	10 U	3 J	10 U	1300 U
1,1,1-Trichloroethane	10	10 U	10 U	10 U	10 U	1300 U
Carbon Tetrachloride	10	10 U	10 U	10 U	10 U	1300 U
Benzene	10	10 U	10 U	10 U	10 U	1300 U
1,2-Dichloroethane	10	10 U	10 U	10 U	10 U	1300 U
Trichloroethene	10	10 U	10 U	10 U	10 U	1300 U
1,2-Dichloropropane	10	10 U	10 U	10 U	10 U	1300 U
Bromodichloromethane	10	10 U	10 U	1 J	10 U	1300 U
cis-1,3-Dichloropropene	10	10 U	10 U	10 U	10 U	1300 U
4-Methyl-2-Pentanone	10	10 U	10 U	10 U	10 U	1300 U
Toluene	10	10 U	10 U	4 J	10 U	420 J
trans-1,3-Dichloropropene	10	10 U	10 U	10 U	10 U	1300 U
1,1,2-Trichloroethane	10	10 U	10 U	10 U	10 U	1300 U
Tetrachloroethene	10	10 U	10 U	10 U	10 U	1300 U
2-Hexanone	10	10 U	10 U	10 U	10 U	1300 U
Dibromochloromethane	10	10 U	10 U	10 U	10 U	1300 U
Chlorobenzene	10	10 U	10 U	10 U	10 U	1300 U
Ethylbenzene	10	10 U	10 U	10 U	10 U	250 J
Styrene	10	10 U	10 U	10 U	10 U	1300 U
Bromoform	10	10 U	10 U	10 U	10 U	1300 U
1,1,2,2-Tetrachloroethane	10	10 U	10 U	10 U	10 U	1300 U
1,2-Dichloroethene (total)	10	10 U	10 U	10 U	10 U	86 J
Xylene (total)	10	10 U	10 U	10 U	10 U	1900
Total TIC concentration		0	0	0	0	50800
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		1	1	1	1	1
Sample Weight/Volume		5 mL	5 mL	5 mL	5 mL	4.0 g (Medium level)
% Moisture		100	100	100	100	7

Volatile Organic Compounds						
Site		8	8	8	8	8
Location		SB8	SB8	SB8	SB8	SB7
Sample Depth		4.5-5.5	4.5-5.5	4.5-5.5	0.5-2.5	8.9-10.3
Sample Number		8-SB8-4.5-5.5DL	8-SB8-4.5-5.5	8-SB8-4.5-5.5	8-SB8-0.5-2.5	8-SB7-8.9-10.3
Laboratory Sample ID		9604771-08DL	9604771-08	9604771-08	9604771-07	9604771-02
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96	4/25/96
Date Analyzed		5/7/96	4/30/96	Composite Results	4/30/96	5/3/96
	CRQL					
Chloromethane	10	1400 U	11 U	11 U	11 U	11 U
Vinyl Chloride	10	1400 U	11 U	11 U	11 U	11 U
Bromomethane	10	1400 U	11 U	11 U	11 U	11 UJ
Chloroethane	10	1400 U	11 U	11 U	11 U	11 UJ
1,1-Dichloroethene	10	1400 U	11 U	11 U	11 U	11 U
Acetone	10	910 J	540 J	910 J	140 J	130 J
Carbon Disulfide	10	1400 U	1 J	1 J	1 J	11 U
Methylene Chloride	10	90 J	11 U	11 U	11 U	11 U
1,1-Dichloroethane	10	1400 U	11 U	11 U	11 U	11 U
2-Butanone	10	1400 U	10 J	10 J	23	11 J
Chloroform	10	1400 U	11 U	11 U	11 U	11 U
1,1,1-Trichloroethane	10	1400 U	11 U	11 U	11 U	11 U
Carbon Tetrachloride	10	1400 U	11 U	11 U	11 U	11 U
Benzene	10	1400 U	11 U	11 U	11 U	11 U
1,2-Dichloroethane	10	1400 U	11 U	11 U	11 U	11 U
Trichloroethene	10	1400 U	11 U	11 U	11 U	11 U
1,2-Dichloropropane	10	1400 U	11 U	11 U	11 U	11 U
Bromodichloromethane	10	1400 U	11 U	11 U	11 U	11 U
cis-1,3-Dichloropropene	10	1400 U	11 U	11 U	11 U	11 U
4-Methyl-2-Pentanone	10	1400 U	11 U	11 U	22	11 U
Toluene	10	1400 U	11 U	11 U	11 U	11 U
trans-1,3-Dichloropropene	10	1400 U	11 U	11 U	11 U	11 U
1,1,2-Trichloroethane	10	1400 U	11 U	11 U	11 U	11 U
Tetrachloroethene	10	1400 U	11 U	11 U	11 U	11 U
2-Hexanone	10	1400 U	11	11	11 J	5 J
Dibromochloromethane	10	1400 U	11 U	11 U	11 U	11 U
Chlorobenzene	10	1400 U	11 U	11 U	11 U	11 U
Ethylbenzene	10	1400 U	11 U	11 U	11 U	11 U
Styrene	10	1400 U	11 U	11 U	11 U	11 U
Bromoform	10	1400 U	11 U	11 U	11 U	11 U
1,1,2,2-Tetrachloroethane	10	1400 U	11 U	11 U	11 U	11 U
1,2-Dichloroethene (total)	10	1400 U	9 J	9 J	5 J	11 U
Xylene (total)	10	1400 U	1 J	1 J	1 J	1 J
Total TIC concentration		1100	103		97	219
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		1	1		1	1
Sample Weight/Volume		4.0 g (Medium level)	5.0 g	Composite Results	5.0 g	5.0 g
% Moisture		8	8	8	12	8

Volatile Organic Compounds						
Site		8	8	8	8	8
Location		SB7	SB7	SB7	SB7	SB6
Sample Depth		4.5-5.8	0.5-2.5	0.5-2.5	0.5-2.5	9.5-10.3
Sample Number		8-SB7-4.5-5.8	8-SB7-0.5-2.5DL	8-SB7-0.5-2.5	8-SB7-0.5-2.5	8-SB6-9.5-10.3
Laboratory Sample ID		9604771-03	9604771-04DL	9604771-04	9604771-04	9604771-09
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96	4/25/96
Date Analyzed		4/30/96	5/3/96	4/30/96	Composite Results	5/3/96
	CRQL					
Chloromethane	10	11 U	56 U	11 U	11 U	11 U
Vinyl Chloride	10	11 U	56 U	11 U	11 U	11 U
Bromomethane	10	11 U	56 UJ	11 U	11 U	11 UJ
Chloroethane	10	11 U	56 UJ	11 U	11 U	11 UJ
1,1-Dichloroethene	10	11 U	56 U	11 U	11 U	11 U
Acetone	10	200 J	950 J	390 J	950 J	130 J
Carbon Disulfide	10	1 J	56 U	1 J	1 J	11 U
Methylene Chloride	10	11 U	56 U	11 U	11 U	11 U
1,1-Dichloroethane	10	11 U	56 U	11 U	11 U	11 U
2-Butanone	10	11 U	93	12	12	6 J
Chloroform	10	11 U	56 U	11 U	11 U	11 U
1,1,1-Trichloroethane	10	11 U	56 U	11 U	11 U	11 U
Carbon Tetrachloride	10	11 U	56 U	11 U	11 U	11 U
Benzene	10	11 U	56 U	11 U	11 U	11 U
1,2-Dichloroethane	10	11 U	56 U	11 U	11 U	11 U
Trichloroethene	10	11 U	56 U	11 U	11 U	11 U
1,2-Dichloropropane	10	11 U	56 U	11 U	11 U	11 U
Bromodichloromethane	10	11 U	56 U	11 U	11 U	11 U
cis-1,3-Dichloropropene	10	11 U	56 U	11 U	11 U	11 U
4-Methyl-2-Pentanone	10	11 U	14 J	25	25	11 U
Toluene	10	11 U	56 U	11 U	11 U	11 U
trans-1,3-Dichloropropene	10	11 U	56 U	11 U	11 U	11 U
1,1,2-Trichloroethane	10	11 U	56 U	11 U	11 U	11 U
Tetrachloroethene	10	11 U	56 U	11 U	11 U	11 U
2-Hexanone	10	11 U	18 J	5 J	5 J	4 J
Dibromochloromethane	10	11 U	56 U	11 U	11 U	11 U
Chlorobenzene	10	11 U	56 U	11 U	11 U	11 U
Ethylbenzene	10	1 J	56 U	11 U	11 U	11 U
Styrene	10	11 U	56 U	11 U	11 U	11 U
Bromoform	10	11 U	56 U	11 U	11 U	11 U
1,1,2,2-Tetrachloroethane	10	11 U	56 U	11 U	11 U	11 U
1,2-Dichloroethene (total)	10	11 U	56 U	11 U	11 U	11 U
Xylene (total)	10	4 J	4 J	1 J	1 J	1 J
Total TIC concentration		29	125	46		75
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		1	1	1		1
Sample Weight/Volume		5.0 g	1.0 g	5.0 g	Composite Results	5.0 g
% Moisture		9	10	10	10	8

Volatile Organic Compounds						
Site		8	8	6	6	6
Location		SB6	SB6	SB18	SB18	SB18
Sample Depth		4.5-5.7	0.5-2.4	8-8.3	8-8.3	8-8.3
Sample Number		8-SB6-4.5-5.7	8-SB6-0.5-2.4	6-SB18-8-8.3DL	6-SB18-8-8.3	6-SB18-8-8.3
Laboratory Sample ID		9604771-10	9604771-11	9604798-03DL	9604798-03	9604798-03
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/25/96	4/25/96	4/26/96	4/26/96	4/26/96
Date Analyzed		4/30/96	5/3/96	5/2/96	4/30/96	Composite Results
	CRQL					
Chloromethane	10	11 U	27 U	1400 U	11 UJ	11 UJ
Vinyl Chloride	10	11 U	27 U	1400 U	11 UJ	11 UJ
Bromomethane	10	11 U	27 UJ	1400 U	11 UJ	11 UJ
Chloroethane	10	11 U	27 UJ	1400 U	11 UJ	11 UJ
1,1-Dichloroethene	10	11 U	27 U	1400 U	11 UJ	11 UJ
Acetone	10	64 U	610 J	2100 J	1300 J	2100 J
Carbon Disulfide	10	1 J	27 U	1400 U	2 J	2 J
Methylene Chloride	10	11 U	27 U	1400 U	11 UJ	11 UJ
1,1-Dichloroethane	10	11 U	27 U	1400 U	11 UJ	11 UJ
2-Butanone	10	2 J	33	1400 U	25 J	25 J
Chloroform	10	11 U	27 U	1400 U	11 UJ	11 UJ
1,1,1-Trichloroethane	10	11 U	27 U	1400 U	11 UJ	11 UJ
Carbon Tetrachloride	10	11 U	27 U	1400 U	11 UJ	11 UJ
Benzene	10	11 U	27 U	1400 U	11 UJ	11 UJ
1,2-Dichloroethane	10	11 U	27 U	1400 U	11 UJ	11 UJ
Trichloroethene	10	11 U	27 U	1400 U	11 UJ	11 UJ
1,2-Dichloropropane	10	11 U	27 U	1400 U	11 UJ	11 UJ
Bromodichloromethane	10	11 U	27 U	1400 U	11 UJ	11 UJ
cis-1,3-Dichloropropene	10	11 U	27 U	1400 U	11 UJ	11 UJ
4-Methyl-2-Pentanone	10	11 U	27 U	1400 U	11 UJ	11 UJ
Toluene	10	11 U	27 U	1400 U	11 UJ	11 UJ
trans-1,3-Dichloropropene	10	11 U	27 U	1400 U	11 UJ	11 UJ
1,1,2-Trichloroethane	10	1 J	27 U	1400 U	11 UJ	11 UJ
Tetrachloroethene	10	11 U	27 U	1400 U	11 UJ	11 UJ
2-Hexanone	10	11 U	2 J	1400 U	11 UJ	11 UJ
Dibromochloromethane	10	11 U	27 U	1400 U	11 UJ	11 UJ
Chlorobenzene	10	11 U	27 U	1400 U	11 UJ	11 UJ
Ethylbenzene	10	11 U	27 U	1400 U	11 UJ	11 UJ
Styrene	10	11 U	27 U	1400 U	11 UJ	11 UJ
Bromoform	10	11 U	27 U	1400 U	11 UJ	11 UJ
1,1,2,2-Tetrachloroethane	10	11 U	27 U	1400 U	11 UJ	11 UJ
1,2-Dichloroethene (total)	10	11 U	27 U	1400 U	11 UJ	11 UJ
Xylene (total)	10	11 U	2 J	1400 U	11 UJ	11 UJ
Total TIC concentration		0	72	19230	1810	
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		1	1	1	1	
Sample Weight/Volume		5.0 g	2.0 g	4.0 g (Medium level)	5.0 g	Composite Result
% Moisture		9	9	9	9	9

Volatile Organic Compounds

Volatile Organic Compounds	CRQL					
Site		6	6	6	6	6
Location		SB18	SB18	SB18	SB18	SB15
Sample Depth		6.4-7.3	6.4-7.3	6.4-7.3	0.5-2.5	7.7-8.1
Sample Number		6-SB18-6.4-7.3DL	6-SB18-6.4-7.3	6-SB18-6.4-7.3	6-SB18-0.5-2.5	6-SB15-7.7-8.1DL
Laboratory Sample ID		9604798-02DL	9604798-02	9604798-02	9604798-01	9604798-06DL
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/26/96	4/26/96	4/26/96	4/26/96	4/26/96
Date Analyzed		5/7/96	4/30/96	Composite Result	4/30/96	5/7/96
Chloromethane	10	1300 U	11 U	11 U	11 U	1400 U
Vinyl Chloride	10	1300 U	11 U	11 U	11 U	1400 U
Bromomethane	10	1300 U	11 U	11 U	11 U	1400 U
Chloroethane	10	1300 U	11 U	11 U	11 U	1400 U
1,1-Dichloroethene	10	1300 U	11 U	11 U	11 U	1400 U
Acetone	10	2600 J	2000 J	2600 J	65 U	1300 J
Carbon Disulfide	10	1300 U	2 J	2 J	1 J	1400 U
Methylene Chloride	10	1300 U	11 U	11 U	11 U	1400 U
1,1-Dichloroethane	10	1300 U	11 U	11 U	11 U	1400 U
2-Butanone	10	1300 U	5 J	5 J	9 J	1400 U
Chloroform	10	1300 U	11 U	11 U	11 U	1400 U
1,1,1-Trichloroethane	10	1300 U	11 U	11 U	11 U	1400 U
Carbon Tetrachloride	10	1300 U	11 U	11 U	11 U	1400 U
Benzene	10	1300 U	11 U	11 U	11 U	1400 U
1,2-Dichloroethane	10	1300 U	11 U	11 U	11 U	1400 U
Trichloroethene	10	1300 U	11 U	11 U	11 U	1400 U
1,2-Dichloropropane	10	1300 U	11 U	11 U	11 U	1400 U
Bromodichloromethane	10	1300 U	11 U	11 U	11 U	1400 U
cis-1,3-Dichloropropene	10	1300 U	11 U	11 U	11 U	1400 U
4-Methyl-2-Pentanone	10	1300 U	11 U	11 U	11 U	1400 U
Toluene	10	1300 U	11 U	11 U	11 U	1400 U
trans-1,3-Dichloropropene	10	1300 U	11 U	11 U	11 U	1400 U
1,1,2-Trichloroethane	10	1300 U	11 U	11 U	11 U	1400 U
Tetrachloroethene	10	1300 U	11 U	11 U	11 U	1400 U
2-Hexanone	10	1300 U	11 U	11 U	4 J	1400 U
Dibromochloromethane	10	1300 U	11 U	11 U	11 U	1400 U
Chlorobenzene	10	1300 U	11 U	11 U	11 U	1400 U
Ethylbenzene	10	1300 U	11 U	11 U	11 U	1400 U
Styrene	10	1300 U	11 U	11 U	11 U	1400 U
Bromoform	10	1300 U	11 U	11 U	11 U	1400 U
1,1,2,2-Tetrachloroethane	10	1300 U	11 U	11 U	11 U	1400 U
1,2-Dichloroethene (total)	10	1300 U	11 U	11 U	11 U	1400 U
Xylene (total)	10	1300 U	11 U	11 U	11 U	1400 U
Total TIC concentration		5770	2005		37	0
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		1	1		1	1
Sample Weight/Volume		4.0 g (Medium level)	5.0 g	Composite Result	5.0 g	4.0 g (Medium level)
% Moisture		7	7	7	10	8

Volatile Organic Compounds						
Site		6	6	6	6	6
Location		SB15	SB15	SB15	SB15	SB15
Sample Depth		7.7-8.1	7.7-8.1	2.5-4	0.5-2.5	0.5-2.5
Sample Number		6-SB15-7.7-8.1	6-SB15-7.7-8.1	6-SB15-2.5-4	6-SB15-0.5-2.5DL	6-SB15-0.5-2.5
Laboratory Sample ID		9604798-06	9604798-06	9604798-05	9604798-04DL	9604798-04
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/26/96	4/26/96	4/26/96	4/26/96	4/26/96
Date Analyzed		4/30/96	Composite Result	4/30/96	5/7/96	5/3/96
	CRQL					
Chloromethane	10	11 UJ	11 UJ	11 U	1400 U	56 U
Vinyl Chloride	10	11 UJ	11 UJ	11 U	1400 U	56 U
Bromomethane	10	11 UJ	11 UJ	11 U	1400 U	56 UJ
Chloroethane	10	11 UJ	11 UJ	11 U	1400 U	56 UJ
1,1-Dichloroethene	10	11 UJ	11 UJ	11 U	1400 U	56 U
Acetone	10	1000 J	1300 J	180 J	1400 U	1600 J
Carbon Disulfide	10	2 J	2 J	11 U	1400 U	56 U
Methylene Chloride	10	11 U	11 U	11 U	1400 U	56 U
1,1-Dichloroethane	10	11 UJ	11 UJ	11 U	1400 U	56 U
2-Butanone	10	7 J	7 J	8 J	1400 U	43 J
Chloroform	10	11 UJ	11 UJ	11 U	1400 U	56 U
1,1,1-Trichloroethane	10	11 UJ	11 UJ	11 U	1400 U	56 U
Carbon Tetrachloride	10	11 UJ	11 UJ	11 U	1400 U	56 U
Benzene	10	11 UJ	11 UJ	11 U	1400 U	56 U
1,2-Dichloroethane	10	11 UJ	11 UJ	11 U	1400 U	56 U
Trichloroethene	10	11 UJ	11 UJ	11 U	1400 U	56 U
1,2-Dichloropropane	10	11 UJ	11 UJ	11 U	1400 U	56 U
Bromodichloromethane	10	11 UJ	11 UJ	11 U	1400 U	56 U
cis-1,3-Dichloropropene	10	11 UJ	11 UJ	11 U	1400 U	56 U
4-Methyl-2-Pentanone	10	11 UJ	11 UJ	11 U	1400 U	56 U
Toluene	10	11 UJ	11 UJ	11 U	1400 U	56 U
trans-1,3-Dichloropropene	10	11 UJ	11 UJ	11 U	1400 U	56 U
1,1,2-Trichloroethane	10	11 UJ	11 UJ	11 U	1400 U	56 U
Tetrachloroethene	10	11 UJ	11 UJ	11 U	1400 U	56 U
2-Hexanone	10	11 UJ	11 UJ	4 J	1400 U	56 U
Dibromochloromethane	10	11 UJ	11 UJ	11 U	1400 U	56 U
Chlorobenzene	10	11 UJ	11 UJ	11 U	1400 U	56 U
Ethylbenzene	10	11 UJ	11 UJ	11 U	1400 U	2 J
Styrene	10	11 UJ	11 UJ	11 U	1400 U	56 U
Bromoform	10	11 UJ	11 UJ	11 U	1400 U	56 U
1,1,2,2-Tetrachloroethane	10	11 UJ	11 UJ	11 U	1400 U	56 U
1,2-Dichloroethene (total)	10	11 UJ	11 UJ	11 U	1400 U	56 U
Xylene (total)	10	11 UJ	11 UJ	11 U	1400 U	5 J
Total TIC concentration		1143		0	0	0
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		1		1	1	1
Sample Weight/Volume		5.0 g	Composite Result	5.0 g	4.0 (Medium level)	1.0 g
% Moisture		8	8	9	10	10

Volatile Organic Compounds	CRQL	
Site		6
Location		SB15
Sample Depth		0.5-2.5
Sample Number		6-SB15-0.5-2.5
Laboratory Sample ID		9604798-04
Matrix		soil
Date Sampled		4/26/96
Date Analyzed		Composite Result
Chloromethane	10	56 U
Vinyl Chloride	10	56 U
Bromomethane	10	56 UJ
Chloroethane	10	56 UJ
1,1-Dichloroethene	10	56 U
Acetone	10	1600 J
Carbon Disulfide	10	56 U
Methylene Chloride	10	56 U
1,1-Dichloroethane	10	56 U
2-Butanone	10	43 J
Chloroform	10	56 U
1,1,1-Trichloroethane	10	56 U
Carbon Tetrachloride	10	56 U
Benzene	10	56 U
1,2-Dichloroethane	10	56 U
Trichloroethene	10	56 U
1,2-Dichloropropane	10	56 U
Bromodichloromethane	10	56 U
cis-1,3-Dichloropropene	10	56 U
4-Methyl-2-Pentanone	10	56 U
Toluene	10	56 U
trans-1,3-Dichloropropene	10	56 U
1,1,2-Trichloroethane	10	56 U
Tetrachloroethene	10	56 U
2-Hexanone	10	56 U
Dibromochloromethane	10	56 U
Chlorobenzene	10	56 U
Ethylbenzene	10	2 J
Styrene	10	56 U
Bromoform	10	56 U
1,1,2,2-Tetrachloroethane	10	56 U
1,2-Dichloroethene (total)	10	56 U
Xylene (total)	10	5 J
Total TIC concentration		
Units (ug/kg) Soil, (ug/L) Water		
Dilution Factor		
Sample Weight/Volume		Composite Result
% Moisture		10

Semivolatile Organic Compounds						
Site		8	8	8	8	8
Location		SB8	SB8	SB8	SB7	SB7
Sample Depth		9.5-10.5	4.5-5.5	0.5-2.5	8.9-10.3	4.5-5.8
Sample Number		8-SB8-9.5-10.5	8-SB8-4.5-5.5	8-SB8-0.5-2.5	8-SB7-8.9-10.3	8-SB7-4.5-5.8
Laboratory Sample ID		9604771-06	9604771-08	9604771-07	9604771-02	9604771-03
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96	4/25/96
Date Analyzed		5/13/96	5/13/96	5/13/96	5/14/96	5/14/96
	CRQL					
bis(2-Chloroethyl)ether	330	1400 U	360 U	760 U	360 U	370 U
Phenol	330	1400 U	360 U	760 U	360 U	370 U
2-Chlorophenol	330	1400 U	360 U	760 U	360 U	370 U
1,3-Dichlorobenzene	330	1400 U	360 U	760 U	360 U	370 U
1,4-Dichlorobenzene	330	1400 U	360 U	760 U	360 U	370 U
1,2-Dichlorobenzene	330	1400 U	360 U	760 U	360 U	370 U
2,2'-oxybis(1-chloropropane)	330	1400 U	360 U	760 U	360 U	370 U
2-Methylphenol	330	1400 U	360 U	760 U	360 U	370 U
Hexachloroethane	330	1400 U	360 U	760 U	360 U	370 U
N-Nitroso-di-n-propylamine	330	1400 U	360 U	760 U	360 U	370 U
4-Methylphenol	330	1400 U	360 U	760 U	360 U	370 U
Nitrobenzene	330	1400 U	360 U	760 U	360 U	370 U
Isophorone	330	1400 U	360 U	760 U	360 U	370 U
2-Nitrophenol	330	1400 U	360 U	760 U	360 U	370 U
2,4-Dimethylphenol	330	1400 U	360 U	760 U	360 U	370 U
bis(2-Chloroethoxy)methane	330	1400 U	360 U	760 U	360 U	370 U
2,4-Dichlorophenol	330	1400 U	360 U	760 U	360 U	370 U
1,2,4-Trichlorobenzene	330	1400 U	360 U	760 U	360 U	370 U
Naphthalene	330	380 J	360 U	760 U	360 U	370 U
4-Chloroaniline	330	1400 U	360 U	760 U	360 U	370 U
Hexachlorobutadiene	330	1400 U	360 U	760 U	360 U	370 U
4-Chloro-3-methylphenol	330	1400 U	360 U	760 U	360 U	370 U
2-Methylnaphthalene	330	220 J	360 U	760 U	360 U	370 U
Hexachlorocyclopentadiene	330	1400 U	360 U	760 U	360 U	370 U
2,4,6-Trichlorophenol	330	1400 U	360 U	760 U	360 U	370 U
2,4,5-Trichlorophenol	800	3600 U	910 U	1900 U	910 U	920 U
2-Chloronaphthalene	330	1400 U	360 U	760 U	360 U	370 U
2-Nitroaniline	800	3600 U	910 U	1900 U	910 U	920 U
Acenaphthylene	330	1400 U	360 U	760 U	360 U	370 U
Dimethylphthalate	330	1400 U	360 U	760 U	360 U	370 U
2,6-Dinitrotoluene	330	1400 U	360 U	760 U	360 U	370 U
Acenaphthene	330	1400 U	360 U	760 U	360 U	370 U
3-Nitroaniline	800	3600 U	910 U	1900 U	910 U	920 U
2,4-Dinitrophenol	800	3600 U	910 U	1900 U	910 U	920 U
Dibenzofuran	330	1400 U	360 U	760 U	360 U	370 U
2,4-Dinitrotoluene	330	1400 U	360 U	760 U	360 U	370 U
4-Nitrophenol	800	3600 U	910 U	1900 U	910 U	920 U
Fluorene	330	1400 U	360 U	760 U	360 U	370 U

Semivolatile Organic Compounds						
Site		8	8	8	8	8
Location		SB8	SB8	SB8	SB7	SB7
Sample Depth		9.5-10.5	4.5-5.5	0.5-2.5	8.9-10.3	4.5-5.8
Sample Number		8-SB8-9.5-10.5	8-SB8-4.5-5.5	8-SB8-0.5-2.5	8-SB7-8.9-10.3	8-SB7-4.5-5.8
Laboratory Sample ID		9604771-06	9604771-08	9604771-07	9604771-02	9604771-03
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96	4/25/96
Date Analyzed		5/13/96	5/13/96	5/13/96	5/14/96	5/14/96
	CRQL					
4-Chlorophenyl-phenylether	330	1400 U	360 U	760 U	360 U	370 U
Diethylphthalate	330	1400 U	360 U	760 U	360 U	370 U
4-Nitroaniline	800	3600 U	910 U	1900 U	910 U	920 U
4,6-Dinitro-2-methylphenol	800	3600 U	910 U	1900 U	910 U	920 U
n-Nitrosodiphenylamine	330	1400 U	360 U	760 U	360 U	370 U
4-Bromophenyl-phenylether	330	1400 U	360 U	760 U	360 U	370 U
Hexachlorobenzene	330	1400 U	360 U	760 U	360 U	370 U
Pentachlorophenol	800	3600 U	910 U	1900 U	910 U	920 U
Phenanthrene	330	1400 U	360 U	760 U	360 U	370 U
Anthracene	330	1400 U	360 U	760 U	360 U	370 U
Carbazole	330	1400 U	360 U	760 U	360 U	370 U
Di-n-butylphthalate	330	26 J	360 U	17 J	360 U	370 U
Fluoranthene	330	1400 U	360 U	760 U	360 U	370 U
Pyrene	330	1400 U	360 U	760 U	360 U	370 U
Butylbenzylphthalate	330	1400 U	360 U	760 U	360 U	370 U
3,3'-Dichlorobenzidine	330	1400 UJ	360 UJ	760 UJ	360 UJ	370 UJ
Benzo[a]anthracene	330	1400 U	360 U	760 U	360 U	370 U
Chrysene	330	1400 U	360 U	760 U	360 U	370 U
bis(2-Ethylhexyl)phthalate	330	100 J	360 U	980	190 J	370 U
Di-n-octylphthalate	330	1400 U	360 U	760 U	14 J	370 U
Benzo[b]fluoranthene	330	1400 U	360 U	760 U	360 U	370 U
Benzo[k]fluoranthene	330	1400 U	360 U	760 U	360 U	370 U
Benzo[a]pyrene	330	1400 U	360 U	760 U	360 U	370 U
Indeno[1,2,3-cd]pyrene	330	1400 U	360 U	760 U	360 U	370 U
Dibenz[a,h]anthracene	330	1400 U	360 U	760 U	360 U	370 U
Benzo[g,h,i]perylene	330	1400 U	360 U	760 U	360 U	370 U
Total TIC concentration		257300	621	700	656	721
Units (ug/kg) Soil, (ug/L) Water	ug/kg					
Dilution Factor		4	1	2	1	1
Sample Weight/Volume		30.0 g	30 g	30.0 g	30.0 g	30.0 g
% Moisture		7	8	12	8	9

Semivolatile Organic Compounds	CRQL					
Site		8	8	8	8	6
Location		SB7	SB6	SB6	SB6	SB18
Sample Depth		0.5-2.5	9.5-10.3	4.5-5.7	0.5-2.4	8-8.3
Sample Number		8-SB7-0.5-2.5	8-SB6-9.5-10.3	8-SB6-4.5-5.7	8-SB6-0.5-2.4	6-SB18-8-8.3
Laboratory Sample ID		9604771-04	9604771-09	9604771-10	9604771-11	9604798-03
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96	4/26/96
Date Analyzed		5/21/96	5/13/96	5/13/96	5/14/96	5/15/96
bis(2-Chloroethyl)ether	330	1500 U	360 U	370 U	730 U	730 U
Phenol	330	1500 U	360 U	370 U	730 U	730 U
2-Chlorophenol	330	1500 U	360 U	370 U	730 U	730 U
1,3-Dichlorobenzene	330	1500 U	360 U	370 U	730 U	730 U
1,4-Dichlorobenzene	330	1500 U	360 U	370 U	730 U	730 U
1,2-Dichlorobenzene	330	1500 U	360 U	370 U	730 U	730 U
2,2'-oxybis(1-chloropropane)	330	1500 U	360 U	370 U	730 U	730 U
2-Methylphenol	330	1500 U	360 U	370 U	730 U	730 U
Hexachloroethane	330	1500 U	360 U	370 U	730 U	730 U
N-Nitroso-di-n-propylamine	330	1500 U	360 U	370 U	730 U	730 U
4-Methylphenol	330	1500 U	360 U	370 U	730 U	730 U
Nitrobenzene	330	1500 U	360 U	370 U	730 U	730 U
Isophorone	330	1500 U	360 U	370 U	730 U	730 U
2-Nitrophenol	330	1500 U	360 U	370 U	730 U	730 U
2,4-Dimethylphenol	330	1500 U	360 U	370 U	730 U	730 U
bis(2-Chloroethoxy)methane	330	1500 U	360 U	370 U	730 U	730 U
2,4-Dichlorophenol	330	1500 U	360 U	370 U	730 U	730 U
1,2,4-Trichlorobenzene	330	1500 U	360 U	370 U	730 U	730 U
Naphthalene	330	1500 U	360 U	370 U	730 U	730 U
4-Chloroaniline	330	1500 U	360 U	370 U	730 U	730 U
Hexachlorobutadiene	330	1500 U	360 U	370 U	730 U	730 U
4-Chloro-3-methylphenol	330	1500 U	360 U	370 U	730 U	730 U
2-Methylnaphthalene	330	1500 U	360 U	370 U	730 U	730 U
Hexachlorocyclopentadiene	330	1500 U	360 U	370 U	730 U	730 U
2,4,6-Trichlorophenol	330	1500 U	360 U	370 U	730 U	730 U
2,4,5-Trichlorophenol	800	3700 U	910 U	920 U	1800 U	1800 U
2-Chloronaphthalene	330	1500 U	360 U	370 U	730 U	730 U
2-Nitroaniline	800	3700 U	910 U	920 U	1800 U	1800 U
Acenaphthylene	330	1500 U	360 U	370 U	730 U	730 U
Dimethylphthalate	330	1500 U	360 U	370 U	730 U	730 U
2,6-Dinitrotoluene	330	1500 U	360 U	370 U	730 U	730 U
Acenaphthene	330	1500 U	360 U	370 U	730 U	730 U
3-Nitroaniline	800	3700 U	910 U	920 U	1800 U	1800 U
2,4-Dinitrophenol	800	3700 U	910 U	920 U	1800 U	1800 U
Dibenzofuran	330	1500 U	360 U	370 U	1800 U	1800 U
2,4-Dinitrotoluene	330	1500 U	360 U	370 U	730 U	730 U
4-Nitrophenol	800	3700 U	910 U	920 U	1800 U	1800 U
Fluorene	330	1500 U	360 U	370 U	730 U	730 U

Semivolatile Organic Compounds						
Site		8	8	8	8	6
Location		SB7	SB6	SB6	SB6	SB18
Sample Depth		0.5-2.5	9.5-10.3	4.5-5.7	0.5-2.4	8-8.3
Sample Number		8-SB7-0.5-2.5	8-SB6-9.5-10.3	8-SB6-4.5-5.7	8-SB6-0.5-2.4	6-SB18-8-8.3
Laboratory Sample ID		9604771-04	9604771-09	9604771-10	9604771-11	9604798-03
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96	4/26/96
Date Analyzed		5/21/96	5/13/96	5/13/96	5/14/96	5/15/96
	CRQL					
4-Chlorophenyl-phenylether	330	1500 U	360 U	370 U	730 U	730 U
Diethylphthalate	330	1500 U	360 U	370 U	730 U	730 U
4-Nitroaniline	800	3700 U	910 U	920 U	1800 U	1800 U
4,6-Dinitro-2-methylphenol	800	3700 U	910 U	920 U	1800 U	1800 U
n-Nitrosodiphenylamine	330	1500 U	360 U	370 U	730 U	730 U
4-Bromophenyl-phenylether	330	1500 U	360 U	370 U	730 U	730 U
Hexachlorobenzene	330	1500 U	360 U	370 U	730 U	730 U
Pentachlorophenol	800	3700 U	910 U	920 U	1800 U	1800 U
Phenanthrene	330	1500 U	360 U	370 U	730 U	730 U
Anthracene	330	1500 U	360 U	370 U	730 U	730 U
Carbazole	330	1500 U	360 U	370 U	730 U	730 U
Di-n-butylphthalate	330	1500 U	360 U	370 U	730 U	730 U
Fluoranthene	330	1500 U	360 U	370 U	730 U	730 U
Pyrene	330	1500 U	360 U	370 U	730 U	730 U
Butylbenzylphthalate	330	1500 U	360 U	370 U	730 U	730 U
3,3'-Dichlorobenzidine	330	1500 UJ	360 UJ	370 UJ	730 UJ	730 UJ
Benzo[a]anthracene	330	1500 U	360 U	370 U	730 U	730 U
Chrysene	330	1500 U	360 U	370 U	730 U	730 U
bis(2-Ethylhexyl)phthalate	330	96 J	140 J	370 U	55 J	51 J
Di-n-octylphthalate	330	1500 U	12 J	370 U	730 U	730 U
Benzo[b]fluoranthene	330	1500 U	360 U	370 U	730 U	730 U
Benzo[k]fluoranthene	330	1500 U	360 U	370 U	730 U	730 U
Benzo[a]pyrene	330	1500 U	360 U	370 U	730 U	730 U
Indeno[1,2,3-cd]pyrene	330	1500 U	360 U	370 U	730 U	730 U
Dibenz[a,h]anthracene	330	1500 U	360 U	370 U	730 U	730 U
Benzo[g,h,i]perylene	330	1500 U	360 U	370 U	730 U	730 U
Total TIC concentration		3480	499	431	1460	14930
Units (ug/kg) Soil, (ug/L) Water	ug/kg					
Dilution Factor		4	1	1	2	2
Sample Weight/Volume		30.0 g	30.0 g	30.0 g	30.0 g	30.0 g
% Moisture		10	8	9	9	9

Semivolatile Organic Compounds						
Site		6	6	6	6	6
Location		SB18	SB18	SB15	SB15	SB15
Sample Depth		6.4-7.3	0.5-2.5	7.7-8.1	2.5-4	0.5-2.5
Sample Number		6-SB18-6.4-7.3	6-SB18-0.5-2.5	6-SB15-7.7-8.1	6-SB15-2.5-4	6-SB15-0.5-2.5
Laboratory Sample ID		9604798-02	9604798-01	9604798-06	9604798-05	9604798-04
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/26/96	4/26/96	4/26/96	4/26/96	4/26/96
Date Analyzed		5/14/96	5/14/96	5/14/96	5/14/96	5/15/96
	CRQL					
bis(2-Chloroethyl)ether	330	360 U	740 U	360 U	370 U	370 U
Phenol	330	360 U	740 U	360 U	370 U	370 U
2-Chlorophenol	330	360 U	740 U	360 U	370 U	370 U
1,3-Dichlorobenzene	330	360 U	740 U	360 U	370 U	370 U
1,4-Dichlorobenzene	330	360 U	740 U	360 U	370 U	370 U
1,2-Dichlorobenzene	330	360 U	740 U	360 U	370 U	370 U
2,2'-oxybis(1-chloropropane)	330	360 U	740 U	360 U	370 U	370 U
2-Methylphenol	330	360 U	740 U	360 U	370 U	370 U
Hexachloroethane	330	360 U	740 U	360 U	370 U	370 U
N-Nitroso-di-n-propylamine	330	360 U	740 U	360 U	370 U	370 U
4-Methylphenol	330	360 U	740 U	360 U	370 U	370 U
Nitrobenzene	330	360 U	740 U	360 U	370 U	370 U
Isophorone	330	360 U	740 U	360 U	370 U	370 U
2-Nitrophenol	330	360 U	740 U	360 U	370 U	370 U
2,4-Dimethylphenol	330	360 U	740 U	360 U	370 U	370 U
bis(2-Chloroethoxy)methane	330	360 U	740 U	360 U	370 U	370 U
2,4-Dichlorophenol	330	360 U	740 U	360 U	370 U	370 U
1,2,4-Trichlorobenzene	330	360 U	740 U	360 U	370 U	370 U
Naphthalene	330	360 U	740 U	360 U	370 U	370 U
4-Chloroaniline	330	360 U	740 U	360 U	370 U	370 U
Hexachlorobutadiene	330	360 U	740 U	360 U	370 U	370 U
4-Chloro-3-methylphenol	330	360 U	740 U	360 U	370 U	370 U
2-Methylnaphthalene	330	360 U	740 U	360 U	370 U	370 U
Hexachlorocyclopentadiene	330	360 U	740 U	360 U	370 U	370 U
2,4,6-Trichlorophenol	330	360 U	740 U	360 U	370 U	370 U
2,4,5-Trichlorophenol	800	900 U	1900 U	910 U	920 U	930 U
2-Chloronaphthalene	330	360 U	740 U	360 U	370 U	370 U
2-Nitroaniline	800	900 U	1900 U	910 U	920 U	930 U
Acenaphthylene	330	360 U	740 U	360 U	370 U	370 U
Dimethylphthalate	330	360 U	740 U	360 U	370 U	370 U
2,6-Dinitrotoluene	330	360 U	740 U	360 U	370 U	370 U
Acenaphthene	330	360 U	740 U	360 U	370 U	370 U
3-Nitroaniline	800	900 U	1900 U	910 U	920 U	930 U
2,4-Dinitrophenol	800	900 U	1900 U	910 U	920 U	930 U
Dibenzofuran	330	360 U	740 U	360 U	370 U	370 U
2,4-Dinitrotoluene	330	360 U	740 U	360 U	370 U	370 U
4-Nitrophenol	800	900 U	1900 U	910 U	920 U	930 U
Fluorene	330	360 U	740 U	360 U	370 U	370 U

Semivolatile Organic Compounds						
Site		6	6	6	6	6
Location		SB18	SB18	SB15	SB15	SB15
Sample Depth		6.4-7.3	0.5-2.5	7.7-8.1	2.5-4	0.5-2.5
Sample Number		6-SB18-6.4-7.3	6-SB18-0.5-2.5	6-SB15-7.7-8.1	6-SB15-2.5-4	6-SB15-0.5-2.5
Laboratory Sample ID		9604798-02	9604798-01	9604798-06	9604798-05	9604798-04
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/26/96	4/26/96	4/26/96	4/26/96	4/26/96
Date Analyzed		5/14/96	5/14/96	5/14/96	5/14/96	5/15/96
	CRQL					
4-Chlorophenyl-phenylether	330	360 U	740 U	360 U	370 U	370 U
Diethylphthalate	330	360 U	740 U	360 U	370 U	370 U
4-Nitroaniline	800	900 U	1900 U	910 U	920 U	930 U
4,6-Dinitro-2-methylphenol	800	900 U	1900 U	910 U	920 U	930 U
n-Nitrosodiphenylamine	330	360 U	740 U	360 U	370 U	370 U
4-Bromophenyl-phenylether	330	360 U	740 U	360 U	370 U	370 U
Hexachlorobenzene	330	360 U	740 U	360 U	370 U	370 U
Pentachlorophenol	800	900 U	1900 U	910 U	920 U	930 U
Phenanthrene	330	360 U	740 U	360 U	370 U	370 U
Anthracene	330	360 U	740 U	360 U	370 U	370 U
Carbazole	330	360 U	740 U	360 U	370 U	370 U
Di-n-butylphthalate	330	360 U	740 U	360 U	370 U	370 U
Fluoranthene	330	360 U	740 U	360 U	370 U	370 U
Pyrene	330	360 U	740 U	360 U	370 U	370 U
Butylbenzylphthalate	330	360 U	740 U	360 U	370 U	370 U
3,3'-Dichlorobenzidine	330	360 UJ	740 UJ	360 UJ	370 UJ	370 UJ
Benzo[a]anthracene	330	360 U	740 U	360 U	370 U	370 U
Chrysene	330	360 U	740 U	360 U	370 U	370 U
bis(2-Ethylhexyl)phthalate	330	90 J	59 J	58 J	370 U	370 U
Di-n-octylphthalate	330	360 U	740 U	360 U	370 U	370 U
Benzo[b]fluoranthene	330	360 U	740 U	360 U	370 U	370 U
Benzo[k]fluoranthene	330	360 U	740 U	360 U	370 U	370 U
Benzo[a]pyrene	330	360 U	740 U	360 U	370 U	370 U
Indeno[1,2,3-cd]pyrene	330	360 U	740 U	360 U	370 U	370 U
Dibenz[a,h]anthracene	330	360 U	740 U	360 U	370 U	370 U
Benzo[g,h,i]perylene	330	360 U	740 U	360 U	370 U	370 U
Total TIC concentration		9960	400	15140	578	926
Units (ug/kg) Soil, (ug/L) Water	ug/kg					
Dilution Factor		1	2	1	1	1
Sample Weight/Volume		30.0 g	30.0 g	30.0 g	30.0 g	30.0 g
% Moisture		7	10	8	9	10

Semivolatile Organic Compounds		
Site		8
Location		
Sample Depth		
Sample Number		8-RB1
Laboratory Sample ID		9604771-01
Matrix		water
Date Sampled		4/25/96
Date Analyzed		5/8/96
	CRQL	
bis(2-Chloroethyl)ether	330	10 U
Phenol	330	10 U
2-Chlorophenol	330	10 U
1,3-Dichlorobenzene	330	10 U
1,4-Dichlorobenzene	330	10 U
1,2-Dichlorobenzene	330	10 U
2,2'-oxybis(1-chloropropane)	330	10 U
2-Methylphenol	330	10 U
Hexachloroethane	330	10 U
N-Nitroso-di-n-propylamine	330	10 U
4-Methylphenol	330	10 U
Nitrobenzene	330	10 U
Isophorone	330	10 U
2-Nitrophenol	330	10 U
2,4-Dimethylphenol	330	10 U
bis(2-Chloroethoxy)methane	330	10 U
2,4-Dichlorophenol	330	10 U
1,2,4-Trichlorobenzene	330	10 U
Naphthalene	330	10 U
4-Chloroaniline	330	10 U
Hexachlorobutadiene	330	10 U
4-Chloro-3-methylphenol	330	10 U
2-Methylnaphthalene	330	10 U
Hexachlorocyclopentadiene	330	10 U
2,4,6-Trichlorophenol	330	10 U
2,4,5-Trichlorophenol	800	25 U
2-Chloronaphthalene	330	10 U
2-Nitroaniline	800	25 U
Acenaphthylene	330	10 U
Dimethylphthalate	330	10 U
2,6-Dinitrotoluene	330	10 U
Acenaphthene	330	10 U
3-Nitroaniline	800	25 U
2,4-Dinitrophenol	800	25 U
Dibenzofuran	330	10 U
2,4-Dinitrotoluene	330	10 U
4-Nitrophenol	800	25 U
Fluorene	330	10 U

Semivolatile Organic Compounds	CRQL	
Site		8
Location		
Sample Depth		
Sample Number		8-RB1
Laboratory Sample ID		9604771-01
Matrix		water
Date Sampled		4/25/96
Date Analyzed		5/8/96
4-Chlorophenyl-phenylether	330	10 U
Diethylphthalate	330	10 U
4-Nitroaniline	800	25 U
4,6-Dinitro-2-methylphenol	800	25 U
n-Nitrosodiphenylamine	330	10 U
4-Bromophenyl-phenylether	330	10 U
Hexachlorobenzene	330	10 U
Pentachlorophenol	800	25 U
Phenanthrene	330	10 U
Anthracene	330	10 U
Carbazole	330	10 U
Di-n-butylphthalate	330	1 BJ
Fluoranthene	330	10 U
Pyrene	330	10 U
Butylbenzylphthalate	330	10 U
3,3'-Dichlorobenzidine	330	10 U
Benzo[a]anthracene	330	10 U
Chrysene	330	10 U
bis(2-Ethylhexyl)phthalate	330	2 BJ
Di-n-octylphthalate	330	10 U
Benzo[b]fluoranthene	330	10 U
Benzo[k]fluoranthene	330	10 U
Benzo[a]pyrene	330	10 U
Indeno[1,2,3-cd]pyrene	330	10 U
Dibenz[a,h]anthracene	330	10 U
Benzo[g,h,i]perylene	330	10 U
Total TIC concentration		18
Units (ug/kg) Soil, (ug/L) Water	ug/kg	
Dilution Factor		1
Sample Weight/Volume		1000 mL
% Moisture		100

OPO1.XLS

Inorganics	CRDL				
Site		8	8	8	8
Location			SB8	SB8	SB8
Sample Depth			9.5-10.5	4.5-5.5	0.5-2.5
Sample Number		8-RB1	8-SB8-9.5-10.5	8-SB8-4.5-5.5	8-SB8-0.5-2.5
Laboratory Sample ID		9604771-01	9604771-06	9604771-08	9604771-07
Matrix		water	soil	soil	soil
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96
Date Analyzed		5/7-14/96	5/7-14/96	5/7-14/96	5/7-14/96
Antimony	* 6	5 UW	0.87 UJ	0.91 UJ	0.86 UJ
Arsenic	10	1 U	3.5	4	10.5
Barium	200	4 U	160	89.5	186
Beryllium	* 4	0.3 U	0.45 J	0.29 J	0.62 J
Cadmium	5	2 U	0.36 U	0.32 U	0.48 J
Chromium	10	6 U	10.7	7.4	13.2
Copper	25	4 U	12.7	11.4	34
Lead	3	1 U	7.4	6.5	15
Mercury	0.2	0.2 U	0.07 U	0.11 U	0.11 U
Nickel	40	5 U	8.5	9	12.5
Selenium	5	1 U	0.17 UJ	0.18 UJ	0.86 UJ
Silver	10	3 U	0.54 U	0.48 U	0.54 U
Thallium	* 2	2 U	0.42	0.36 U	0.35 U
Zinc	20	12.7 B	53.9	42.3	68.3
Units (mg/kg) Soil, (ug/L) Water	ug/L				
% Solids			92.6	91.6	87.6

* Project-specific CRDL

Inorganics	CRDL				
Site		8	8	8	8
Location		SB7	SB7	SB7	SB6
Sample Depth		8.9-10.3	4.5-5.8	0.5-2.5	9.5-10.3
Sample Number		8-SB7-8.9-10.3	8-SB7-4.5-5.8	8-SB7-0.5-2.5	8-SB6-9.5-10.3
Laboratory Sample ID		9604771-02	9604771-03	9604771-04	9604771-09
Matrix		soil	soil	soil	soil
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96
Date Analyzed		5/7-14/96	5/7-14/96	5/7-14/96	5/7-14/96
Antimony	* 6	0.85 UJ	0.86 UJ	0.81 UJ	0.87 UJ
Arsenic	10	3.3	2.5	7.6	3.3
Barium	200	141	96.1	436	128
Beryllium	* 4	0.43 J	0.29 J	0.45 J	0.3 J
Cadmium	5	0.34 U	0.38 U	0.35 U	0.32 U
Chromium	10	13.2	8.3	12.1	12.7
Copper	25	13.3	10	26.7	11.1
Lead	3	7.7	6.2	16.6	7.9
Mercury	0.2	0.1 U	0.11 U	0.1 U	0.11 U
Nickel	40	9.1	8.8	10.6	11
Selenium	5	0.37 J	0.17 UJ	0.16 UJ	0.28 J
Silver	10	0.51 U	0.58 U	0.52 U	0.48 U
Thallium	* 2	0.34 U	0.34 U	0.33 U	0.35 U
Zinc	20	55.3	41.7	137	44.8
Units (mg/kg) Soil, (ug/L) Water	ug/L				
% Solids		92.2	91.4	89.6	91.7

* Project-specific CRDL

Inorganics					
Site		8	8	6	6
Location		SB6	SB6	SB18	SB18
Sample Depth		4.5-5.7	0.5-2.4	8-8.3	6.4-7.3
Sample Number		8-SB6-4.5-5.7	8-SB6-0.5-2.4	6-SB18-8-8.3	6-SB18-6.4-7.3
Laboratory Sample ID		9604771-10	9604771-11	9604798-03	9604798-02
Matrix		soil	soil	soil	soil
Date Sampled		4/25/96	4/25/96	4/26/96	4/26/96
Date Analyzed		5/7-14/96	5/7-14/96	5/7-14/96	5/7-14/96
	CRDL				
Antimony	* 6	0.89 UJ	0.83 UJ	0.92 UJ	1 UJ
Arsenic	10	2.5	8.6	3.7	5.7
Barium	200	78.3	358	306	248
Beryllium	* 4	0.26 J	0.52 J	0.24 J	0.27 J
Cadmium	5	0.37 U	0.33 U	0.36 U	0.38 U
Chromium	10	7.8	15.3	12.9	9.8
Copper	25	11	37.4	9.6	32.7
Lead	3	5.9	8.1	5.1	6.9
Mercury	0.2	0.11 U	0.08 U	0.11 U	0.07 U
Nickel	40	8.6	11.9	8.9	8.7
Selenium	5	0.18 UJ	0.83 UJ	0.18 UJ	0.21 UJ
Silver	10	0.56 U	0.49 U	0.55 U	0.57 U
Thallium	* 2	0.35 U	0.33 U	0.37 U	0.41 U
Zinc	20	47.5	52.7	33.2	52.3
Units (mg/kg) Soil, (ug/L) Water	ug/L				
% Solids		91	91.1	90.6	92.9

* Project-specific CRDL

OPO1.XLS

Inorganics					
Site		6	6	6	6
Location		SB18	SB15	SB15	SB15
Sample Depth		0.5-2.5	7.7-8.1	2.5-4	0.5-2.5
Sample Number		6-SB18-0.5-2.5	6-SB15-7.7-8.1	6-SB15-2.5-4	6-SB15-0.5-2.5
Laboratory Sample ID		9604798-01	9604798-06	9604798-05	9604798-04
Matrix		soil	soil	soil	soil
Date Sampled		4/26/96	4/26/96	4/26/96	4/26/96
Date Analyzed		5/7-14/96	5/7-14/96	5/7-14/96	5/7-14/96
	CRDL				
Antimony	* 6	0.88 UJ	0.85 UJ	0.9 UJ	0.95 UJ
Arsenic	10	5.9	5.2 J	2.7	5.4
Barium	200	258	145	116	468
Beryllium	* 4	0.46 J	0.23 J	0.25 J	0.28 J
Cadmium	5	0.37 U	0.35 U	0.36 U	0.38 U
Chromium	10	10.5	11	7 U	11.3
Copper	25	16.9	9.9	13.7	17.1
Lead	3	8.7	5	6.3	5.8
Mercury	0.2	0.11	0.1 U	0.11 U	0.11 U
Nickel	40	11.3	8.4	8.2	8.9
Selenium	5	0.18 UJ	0.17 UJ	0.18 UJ	0.19 UJ
Silver	10	0.55 U	0.53 U	0.54 U	0.56 U
Thallium	* 2	0.42	0.34 U	0.36 U	0.38 U
Zinc	20	49.4	40.2	47.9	36.6
Units (mg/kg) Soil, (ug/L) Water	ug/L				
% Solids		90.3	92.2	91.3	89.5

* Project-specific CRDL

JP4, Gas, Diesel, Oil

Site		8	8	8	8
Location			SB8	SB8	SB8
Sample Depth			9.5-10.5	4.5-5.5	0.5-2.5
Sample Number		8-RB1	8-SB8-9.5-10.5	8-SB8-4.5-5.5	8-SB8-0.5-2.5
Laboratory Sample ID		9604771-01	9604771-06	9604771-08	9604771-07
Matrix		water	soil	soil	soil
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96
Date Analyzed		5/8-10/96	5/7-9/96	5/6-9/96	5/6-9/96
	* RL				
JP-4	10	0.25 U	240	11 U	11 U
Gasoline range	5	0.25 U	340	5.4 U	5.7 U
Diesel range, as diesel	10	0.25 U	260 NJ	11 U	11 U
Oil range, as oil	100	1 U	1200	110 U	110 U
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		100	7	8	12

* RL - Reporting Limit

OPO1.XLS

JP4, Gas, Diesel, Oil					
Site		8	8	8	8
Location		SB7	SB7	SB7	SB6
Sample Depth		8.9-10.3	4.5-5.8	0.5-2.5	9.5-10.3
Sample Number		8-SB7-8.9-10.3	8-SB7-4.5-5.8	8-SB7-0.5-2.5	8-SB6-9.5-10.3
Laboratory Sample ID		9604771-02	9604771-03	9604771-04	9604771-09
Matrix		soil	soil	soil	soil
Date Sampled		4/25/96	4/25/96	4/25/96	4/25/96
Date Analyzed		5/6-8/96	5/6-9/96	5/7-9/96	5/6-9/96
	* RL				
JP-4	10	11 U	11 U	11 U	11 U
Gasoline range	5	5.4 U	5.5 U	5.6 U	5.4 U
Diesel range, as diesel	10	11 U	11 U	55 NJ	11 U
Oil range, as oil	100	110 U	110 U	1700	110 U
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		8	9	10	8

* RL - Reporting Limit

JP4, Gas, Diesel, Oil					
Site		8	8	6	6
Location		SB6	SB6	SB18	SB18
Sample Depth		4.5-5.7	0.5-2.4	8-8.3	6.4-7.3
Sample Number		8-SB6-4.5-5.7	8-SB6-0.5-2.4	6-SB18-8-8.3	6-SB18-6.4-7.3
Laboratory Sample ID		9604771-10	9604771-11	9604798-03	9604798-02
Matrix		soil	soil	soil	soil
Date Sampled		4/25/96	4/25/96	4/26/96	4/26/96
Date Analyzed		5/6-9/96	5/7-9/96	5/7-9/96	5/7-10/96
	* RL				
JP-4	10	11 U	11 U	76	50
Gasoline range	5	5.5 U	5.5 U	110	20
Diesel range, as diesel	10	11 U	15 NJ	71	89
Oil range, as oil	100	110 U	180	110 U	110 U
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		9	9	9	7
* RL - Reporting Limit					

JP4, Gas, Diesel, Oil					
Site		6	6	6	6
Location		SB18	SB15	SB15	SB15
Sample Depth		0.5-2.5	7.7-8.1	2.5-4	0.5-2.5
Sample Number		6-SB18-0.5-2.5	6-SB15-7.7-8.1	6-SB15-2.5-4	6-SB15-0.5-2.5
Laboratory Sample ID		9604798-01	9604798-06	9604798-05	9604798-04
Matrix		soil	soil	soil	soil
Date Sampled		4/26/96	4/26/96	4/26/96	4/26/96
Date Analyzed		5/6-9/96	5/7-9/96	5/7-9/96	5/6-9/96
	* RL				
JP-4	10	11 U	95	11 U	11 U
Gasoline range	5	5.6 U	290	5.5 U	5.6 U
Diesel range, as diesel	10	11 U	79	11 U	11 U
Oil range, as oil	100	110 U	110 U	110 U	110 U
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		10	8	9	10
* RL - Reporting Limit					

Volatile Organic Compounds	CRQL					
Site		7	7	7	6	6
Location						
Sample Depth						
Sample Number		7-TB3	7-TB2	7-RB1	6-TB3	6-TB2
Laboratory Sample ID		9604821-02	9604821-11	9604821-01	9604821-13	9604799-05
Matrix		water	water	water	water	water
Date Sampled		4/29/96	4/27/96	4/29/96	4/28/96	4/26/96
Date Analyzed		5/2/96	5/2/96	5/2/96	5/2/96	5/1/96
Chloromethane	10	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride	10	10 U	10 U	10 U	10 U	10 U
Bromomethane	10	10 U	10 U	10 U	10 U	10 U
Chloroethane	10	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	10	10 U	10 U	10 U	10 U	10 U
Acetone	10	10 U	2 J	7 J	1 J	4 J
Carbon Disulfide	10	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	10	1 J	1 J	10 U	10 U	1 J
1,1-Dichloroethane	10	10 U	10 U	10 U	10 U	10 U
2-Butanone	10	10 U	10 U	10 U	10 U	10 U
Chloroform	10	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane	10	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	10	10 U	10 U	10 U	10 U	10 U
Benzene	10	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	10	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	10	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	10	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	10	10 U	10 U	10 U	10 U	10 U
Toluene	10	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	10	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	10	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10	10 U	10 U	10 U	10 U	10 U
Styrene	10	10 U	10 U	10 U	10 U	10 U
Bromoform	10	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethene (total)	10	10 U	10 U	10 U	10 U	10 U
Xylene (total)	10	10 U	10 U	10 U	10 U	10 U
Total TIC concentration		0	0	13	0	0
Units (ug/kg) Soil, (ug/L) water						
Dilution Factor		1	1	1	1	1
Sample Weight/Volume		5.0 mL	5.0 mL	5.0 mL	5.0 mL	5.0 mL
% Moisture		100	100	100	100	100

Volatile Organic Compounds						
Site		6	7	7	7	7
Location			SB7	SB7	SB7	SB7
Sample Depth			8-8.3	3.4-5.2	3.4-5.2	3.4-5.2
Sample Number		6-RB1	7-SB7-8-8.3	7-SB7-3.4-5.2DL	7-SB7-3.4-5.2	7-SB7-3.4-5.2
Laboratory Sample ID		9604799-01	9604821-08	9604821-07DL	9604821-07	9604821-07
Matrix		water	soil	soil	soil	soil
Date Sampled		4/26/96	4/27/96	4/27/96	4/27/96	4/27/96
Date Analyzed		5/1/96	5/2/96	5/7/96	5/3/96	Composite results
	CRQL					
Chloromethane	10	10 U	1400 U	1400 U	11 UJ	11 UJ
Vinyl Chloride	10	10 U	1400 U	1400 U	11 U	11 U
Bromomethane	10	10 U	1400 U	1400 U	11 UJ	11 UJ
Chloroethane	10	10 U	1400 U	1400 U	11 U	11 U
1,1-Dichloroethene	10	10 U	1400 U	1400 U	11 U	11 U
Acetone	10	8 J	1700	1800	900 J	1800
Carbon Disulfide	10	10 U	1400 U	1400 U	11 U	11 U
Methylene Chloride	10	1 J	1400 U	1400 U	11 U	11 U
1,1-Dichloroethane	10	10 U	1400 U	1400 U	11 U	11 U
2-Butanone	10	10 U	1400 U	1400 U	5 J	5 J
Chloroform	10	2 J	1400 U	1400 U	11 U	11 U
1,1,1-Trichloroethane	10	10 U	1400 U	1400 U	11 U	11 U
Carbon Tetrachloride	10	10 U	1400 U	1400 U	11 U	11 U
Benzene	10	10 U	1400 U	1400 U	11 U	11 U
1,2-Dichloroethane	10	10 U	1400 U	1400 U	11 U	11 U
Trichloroethene	10	10 U	1400 U	1400 U	11 U	11 U
1,2-Dichloropropane	10	10 U	1400 U	1400 U	11 U	11 U
Bromodichloromethane	10	10 U	1400 U	1400 U	11 U	11 U
cis-1,3-Dichloropropene	10	10 U	1400 U	1400 U	11 U	11 U
4-Methyl-2-Pentanone	10	10 U	1400 U	1400 U	11 U	11 U
Toluene	10	2 J	140 J	1400 U	11 U	11 U
trans-1,3-Dichloropropene	10	10 U	1400 U	1400 U	11 U	11 U
1,1,2-Trichloroethane	10	10 U	1400 U	1400 U	11 U	11 U
Tetrachloroethene	10	10 U	1400 U	1400 U	11 U	11 U
2-Hexanone	10	10 U	1400 U	1400 U	11 U	11 U
Dibromochloromethane	10	10 U	1400 U	1400 U	11 U	11 U
Chlorobenzene	10	10 U	1400 U	1400 U	11 U	11 U
Ethylbenzene	10	10 U	180 J	1400 U	11 U	11 U
Styrene	10	10 U	1400 U	1400 U	11 U	11 U
Bromoform	10	10 U	1400 U	1400 U	11 U	11 U
1,1,2,2-Tetrachloroethane	10	10 U	1400 U	1400 U	11 U	11 U
1,2-Dichloroethene (total)	10	10 U	1400 U	1400 U	11 U	11 U
Xylene (total)	10	10 U	1500	1400 U	11 U	11 U
Total TIC concentration		0	31090	0	9	
Units (ug/kg) Soil, (ug/L) water						
Dilution Factor		1	1	1	1	
Sample Weight/Volume		5.0 mL	4.0 g (Medium level)	4.0 g (Medium level)	5.0 g	Composite results
% Moisture		100	8	9	9	9

Volatile Organic Compounds						
Site		7	7	7	7	7
Location		SB7	SB7	SB7	SB6	SB6
Sample Depth		7-SB7-1-3	7-SB7-1-3	7-SB7-1-3	7.2-8	3.5-5.5
Sample Number		7-SB7-1-3DL	7-SB7-1-3	7-SB7-1-3	7-SB6-7.2-8	7-SB6-3.5-5.5
Laboratory Sample ID		9604821-06DL	9604821-06	9604821-06	9604821-05	9604821-04
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/27/96	4/27/96	4/27/96	4/27/96	4/27/96
Date Analyzed		5/7/96	5/3/96	Composite results	5/2/96	5/3/96
	CRQL					
Chloromethane	10	1600 U	12 UJ	12 UJ	1600 U	11 UJ
Vinyl Chloride	10	1600 U	12 U	12 U	1600 U	11 U
Bromomethane	10	1600 U	12 UJ	12 UJ	1600 U	11 UJ
Chloroethane	10	1600 U	12 U	12 U	1600 U	11 U
1,1-Dichloroethene	10	1600 U	12 U	12 U	1600 U	11 U
Acetone	10	1400 J	1200 J	1400 J	1400 J	130
Carbon Disulfide	10	1600 U	2 J	2 J	1600 U	11 U
Methylene Chloride	10	1600 U	12 U	12 U	1600 U	11 U
1,1-Dichloroethane	10	1600 U	12 U	12 U	1600 U	11 U
2-Butanone	10	1600 U	12 J	12 J	1600 U	5 J
Chloroform	10	1600 U	12 U	12 U	1600 U	1 J
1,1,1-Trichloroethane	10	1600 U	12 U	12 U	1600 U	11 U
Carbon Tetrachloride	10	1600 U	12 U	12 U	1600 U	11 U
Benzene	10	1600 U	12 U	12 U	1600 U	11 U
1,2-Dichloroethane	10	1600 U	12 U	12 U	1600 U	11 U
Trichloroethene	10	1600 U	12 U	12 U	1600 U	11 U
1,2-Dichloropropane	10	1600 U	12 U	12 U	1600 U	11 U
Bromodichloromethane	10	1600 U	12 U	12 U	1600 U	11 U
cis-1,3-Dichloropropene	10	1600 U	12 U	12 U	1600 U	11 U
4-Methyl-2-Pentanone	10	1600 U	12 U	12 U	1600 U	11 U
Toluene	10	1600 U	12 U	12 U	1100 J	11 U
trans-1,3-Dichloropropene	10	1600 U	12 U	12 U	1600 U	11 U
1,1,2-Trichloroethane	10	1600 U	12 U	12 U	1600 U	11 U
Tetrachloroethene	10	1600 U	12 U	12 U	1600 U	11 U
2-Hexanone	10	1600 U	12 U	12 U	1600 U	11 U
Dibromochloromethane	10	1600 U	12 U	12 U	1600 U	11 U
Chlorobenzene	10	1600 U	12 U	12 U	1600 U	11 U
Ethylbenzene	10	1600 U	12 U	12 U	500 J	11 U
Styrene	10	1600 U	12 U	12 U	1600 U	11 U
Bromoform	10	1600 U	12 U	12 U	1600 U	11 U
1,1,2,2-Tetrachloroethane	10	1600 U	12 U	12 U	1600 U	11 U
1,2-Dichloroethene (total)	10	1600 U	12 U	12 U	1600 U	11 U
Xylene (total)	10	1600 U	12 U	12 U	3300	11 U
Total TIC concentration		0	91		76500	7
Units (ug/kg) Soil, (ug/L) water						
Dilution Factor		1	1		1	1
Sample Weight/Volume		4.0 g (Medium level)	5.0 g	Composite results	4.0 g (Medium level)	5.0 g
% Moisture		20	20	20	21	10

Volatile Organic Compounds	CRQL					
Site		7	7	7	7	7
Location		SB6	SB6	SB6	DW1	DW1
Sample Depth		0-2	0-2	0-2	3.2-4.2	3.2-4.2
Sample Number		7-SB6-0-2DL	7-SB6-0-2	7-SB6-0-2	7-DW1-3.2-4.2DL	7-DW1-3.2-4.2
Laboratory Sample ID		9604821-03DL	9604821-03	9604821-03	9604821-10DL	9604821-10
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/27/96	4/27/96	4/27/96	4/27/96	4/27/96
Date Analyzed		5/7/96	5/3/96	Composite results	5/7/96	5/3/96
Chloromethane	10	1400 U	11 UJ	11 UJ	1400 U	11 UJ
Vinyl Chloride	10	1400 U	11 U	11 U	1400 U	11 U
Bromomethane	10	1400 U	11 UJ	11 UJ	1400 U	11 U
Chloroethane	10	1400 U	11 U	11 UJ	1400 U	11 UJ
1,1-Dichloroethene	10	1400 U	11 U	11 U	1400 U	11 U
Acetone	10	810 J	460 J	810 J	820 J	600 J
Carbon Disulfide	10	1400 U	11 U	11 U	1400 U	1 J
Methylene Chloride	10	1400 U	11 U	11 U	1400 U	11 U
1,1-Dichloroethane	10	1400 U	11 U	11 U	1400 U	11 U
2-Butanone	10	1400 U	6 J	6 J	1400 U	15
Chloroform	10	1400 U	11 U	11 U	1400 U	1 J
1,1,1-Trichloroethane	10	1400 U	11 U	11 U	1400 U	11 U
Carbon Tetrachloride	10	1400 U	11 U	11 U	1400 U	11 U
Benzene	10	1400 U	11 U	11 U	1400 U	11 U
1,2-Dichloroethane	10	1400 U	11 U	11 U	1400 U	11 U
Trichloroethene	10	1400 U	11 U	11 U	1400 U	11 U
1,2-Dichloropropane	10	1400 U	11 U	11 U	1400 U	11 U
Bromodichloromethane	10	1400 U	11 U	11 U	1400 U	11 U
cis-1,3-Dichloropropene	10	1400 U	11 U	11 U	1400 U	11 U
4-Methyl-2-Pentanone	10	1400 U	11 U	11 U	1400 U	19
Toluene	10	1400 U	11 U	11 U	1400 U	11 U
trans-1,3-Dichloropropene	10	1400 U	11 U	11 U	1400 U	11 U
1,1,2-Trichloroethane	10	1400 U	11 U	11 U	1400 U	11 U
Tetrachloroethene	10	1400 U	11 U	11 U	1400 U	11 U
2-Hexanone	10	1400 U	1 J	1 J	1400 U	7 J
Dibromochloromethane	10	1400 U	11 U	11 U	1400 U	11 U
Chlorobenzene	10	1400 U	11 U	11 U	1400 U	11 U
Ethylbenzene	10	1400 U	11 U	11 U	1400 U	11 U
Styrene	10	1400 U	11 U	11 U	1400 U	11 U
Bromoform	10	1400 U	11 U	11 U	1400 U	11 U
1,1,2,2-Tetrachloroethane	10	1400 U	11 U	11 U	1400 U	11 U
1,2-Dichloroethene (total)	10	1400 U	11 U	11 U	1400 U	11 U
Xylene (total)	10	1400 U	11 U	11 U	1400 U	11 U
Total TIC concentration		0	9		0	30
Units (ug/kg) Soil, (ug/L) water						
Dilution Factor		1	1		1	1
Sample Weight/Volume		4.0 g (Medium level)	5.0 g	Composite results	4.0 g (Medium level)	5.0 g
% Moisture		12	12	12	13	13

Volatile Organic Compounds	CRQL					
Site		7	7	7	7	6
Location		DW1	DW1	DW1	DW1	SB17
Sample Depth		3.2-4.2	1.2-3.2	1.2-3.2	1.2-3.2	9.5-9.9
Sample Number		7-DW1-3.2-4.2	7-DW1-1.2-3.2DL	7-DW1-1.2-3.2	7-DW1-1.2-3.2	6-SB17-9.5-9.9
Laboratory Sample ID		9604821-10	9604821-09DL	9604821-09	9604821-09	9604799-04
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/27/96	4/27/96	4/27/96	4/27/96	4/26/96
Date Analyzed		Composite results	5/7/96	5/6/96	Composite results	5/2/96
Chloromethane	10	11 UJ	1500 U	12 U	12 U	1300 U
Vinyl Chloride	10	11 U	1500 U	12 U	12 U	1300 U
Bromomethane	10	11 UJ	1500 U	12 U	12 U	1300 U
Chloroethane	10	11 U	1500 U	12 U	12 U	1300 U
1,1-Dichloroethene	10	11 U	1500 U	12 U	12 U	1300 U
Acetone	10	820 J	820 J	590 J	820 J	1300 U
Carbon Disulfide	10	1 J	1500 U	12 U	12 U	1300 U
Methylene Chloride	10	11 U	1500 U	12 U	12 U	1300 U
1,1-Dichloroethane	10	11 U	1500 U	12 U	12 U	1300 U
2-Butanone	10	15	1500 U	2 J	2 J	1300 U
Chloroform	10	1 J	1500 U	12 U	12 U	1300 U
1,1,1-Trichloroethane	10	11 U	1500 U	12 U	12 U	1300 U
Carbon Tetrachloride	10	11 U	1500 U	12 U	12 U	1300 U
Benzene	10	11 U	1500 U	12 U	12 U	1300 U
1,2-Dichloroethane	10	11 U	1500 U	12 U	12 U	1300 U
Trichloroethene	10	11 U	1500 U	12 U	12 U	1300 U
1,2-Dichloropropane	10	11 U	1500 U	12 U	12 U	1300 U
Bromodichloromethane	10	11 U	1500 U	12 U	12 U	1300 U
cis-1,3-Dichloropropene	10	11 U	1500 U	12 U	12 U	1300 U
4-Methyl-2-Pentanone	10	19	1500 U	12 U	12 U	1300 U
Toluene	10	11 U	1500 U	12 U	12 U	5100
trans-1,3-Dichloropropene	10	11 U	1500 U	12 U	12 U	1300 U
1,1,2-Trichloroethane	10	11 U	1500 U	12 U	12 U	1300 U
Tetrachloroethene	10	11 U	1500 U	12 U	12 U	1300 U
2-Hexanone	10	7 J	1500 U	12 U	12 U	1300 U
Dibromochloromethane	10	11 U	1500 U	12 U	12 U	1300 U
Chlorobenzene	10	11 U	1500 U	12 U	12 U	1300 U
Ethylbenzene	10	11 U	1500 U	12 U	12 U	1200 J
Styrene	10	11 U	1500 U	12 U	12 U	1300 U
Bromoform	10	11 U	1500 U	12 U	12 U	1300 U
1,1,2,2-Tetrachloroethane	10	11 U	1500 U	12 U	12 U	1300 U
1,2-Dichloroethene (total)	10	11 U	1500 U	12 U	12 U	1300 U
Xylene (total)	10	11 U	1500 U	12 U	12 U	8100
Total TIC concentration			0	23		1406000
Units (ug/kg) Soil, (ug/L) water						
Dilution Factor			1	1		1
Sample Weight/Volume		Composite results	4.0 g (Medium level)	5.0 g	Composite results	4.0 g (Medium level)
% Moisture		13	18	18	18	7

Volatile Organic Compounds	CRQL		
Site		6	6
Location		SB17	SB17
Sample Depth		4.5-5.8	0.5-2.5
Sample Number		6-SB17-4.5-5.8	6-SB17-0.5-2.5
Laboratory Sample ID		9604799-03	9604799-02
Matrix		soil	soil
Date Sampled		4/26/96	4/26/96
Date Analyzed		5/2/96	5/7/96
Chloromethane	10	1400 U	1300 U
Vinyl Chloride	10	1400 U	1300 U
Bromomethane	10	1400 U	1300 U
Chloroethane	10	1400 U	1300 U
1,1-Dichloroethene	10	1400 U	1300 U
Acetone	10	1800	1300 U
Carbon Disulfide	10	1400 U	1300 U
Methylene Chloride	10	1400 U	1300 U
1,1-Dichloroethane	10	1400 U	1300 U
2-Butanone	10	1400 U	1300 U
Chloroform	10	1400 U	1300 U
1,1,1-Trichloroethane	10	1400 U	1300 U
Carbon Tetrachloride	10	1400 U	1300 U
Benzene	10	1400 U	1300 U
1,2-Dichloroethane	10	1400 U	1300 U
Trichloroethene	10	1400 U	1300 U
1,2-Dichloropropane	10	1400 U	1300 U
Bromodichloromethane	10	1400 U	1300 U
cis-1,3-Dichloropropene	10	1400 U	1300 U
4-Methyl-2-Pentanone	10	1400 U	1300 U
Toluene	10	6400	19000
trans-1,3-Dichloropropene	10	1400 U	1300 U
1,1,2-Trichloroethane	10	1400 U	1300 U
Tetrachloroethene	10	1400 U	1300 U
2-Hexanone	10	1400 U	1300 U
Dibromochloromethane	10	1400 U	1300 U
Chlorobenzene	10	1400 U	1300 U
Ethylbenzene	10	640 J	3600
Styrene	10	1400 U	1300 U
Bromoform	10	1400 U	1300 U
1,1,2,2-Tetrachloroethane	10	1400 U	1300 U
1,2-Dichloroethene (total)	10	130 J	440 J
Xylene (total)	10	4600	26000
Total TIC concentration		91800	222000
Units (ug/kg) Soil, (ug/L) water			
Dilution Factor		1	1
Sample Weight/Volume		4.0 g (Medium level)	4.0 g (Medium level)
% Moisture		9	6

Low Level Volatile Organic Compounds		
Site		6
Location		DW1
Sample Depth		
Sample Number		6-DW1-W1
Laboratory Sample ID		9604821-12
Matrix		water
Date Sampled		4/28/96
Date Analyzed		5/10/96
	CRQL	
chloromethane	1	50 UJ
vinyl chloride	1	50 U
bromomethane	1	50 U
chloroethane	1	50 U
1,1-dichloroethene	1	50 U
acetone	1	R
carbon disulfide	1	50 U
methylene chloride	2	23 J
trans-1,2-Dichloroethene	1	50 U
1,1-dichloroethane	1	50 U
cis-1,2-Dichloroethene	1	50 U
2-butanone	5	R
bromochloromethane	1	50 U
chloroform	1	19 J
1,2-Dichloroethane	1	50 U
1,1,1-trichloroethane	1	50 U
carbon tetrachloride	1	50 U
benzene	1	50 U
trichloroethene	1	90
1,2-dichloropropane	1	50 U
bromodichloromethane	1	50 U
cis-1,3-dichloropropene	1	50 U
4-methyl-2-pentanone	5	250 U
toluene	1	220
trans-1,3-dichloropropene	1	50 U
1,1,2-trichloroethane	1	50 U
tetrachloroethene	1	50 U
2-hexanone	5	5.5 J
dibromochloromethane	1	50 U
1,2-dibromoethane	1	50 U
chlorobenzene	1	50 U
ethylbenzene	1	7.5 J
styrene	1	50 U
1,1,2,2-Tetrachloroethane	1	50 U

Low Level Volatile Organic Compounds		
Site		6
Location		DW1
Sample Depth		
Sample Number		6-DW1-W1
Laboratory Sample ID		9604821-12
Matrix		water
Date Sampled		4/28/96
Date Analyzed		5/10/96
	CRQL	
bromoform	1	50 U
1,3-dichlorobenzene	1	50 U
1,4-dichlorobenzene	1	50 U
1,2-dichlorobenzene	1	50 U
1,2-dibromo-3-chloropropane	1	50 U
Xylene (total)	1	52
Total TIC concentration		6100
Units (ug/kg) Soil, (ug/L) Water	ug/L	
Dilution Factor		50
Sample Weight/Volume		25 mL

Semivolatile Organic Compounds						
Site		7	6	6	7	7
Location				DW1	SB7	SB7
Sample Depth					8-8.3	3.4-5.2
Sample Number		7-RB1	6-RB1	6-DW1-W1	7-SB7-8-8.3	7-SB7-3.4-5.2
Laboratory Sample ID		9604821-01	9604799-01	9604821-12	9604821-08	9604821-07
Matrix		water	water	water	soil	soil
Date Sampled		4/29/96	4/26/96	4/28/96	4/27/96	4/27/96
Date Analyzed		5/10/96	5/8/96	5/22/96	5/9/96	5/9/96
	CRQL					
bis(2-Chloroethyl)ether	330	10 U	10 U	200 U	720 U	370 U
Phenol	330	10 U	10 U	200 U	720 U	370 U
2-Chlorophenol	330	10 U	10 U	200 U	720 U	370 U
1,3-Dichlorobenzene	330	10 U	10 U	200 U	720 U	370 U
1,4-Dichlorobenzene	330	10 U	10 U	200 U	720 U	370 U
1,2-Dichlorobenzene	330	10 U	10 U	200 U	720 U	370 U
2,2'-oxybis(1-chloropropane)	330	10 U	10 U	200 U	720 U	370 U
2-Methylphenol	330	10 U	10 U	200 U	720 U	370 U
Hexachloroethane	330	10 U	10 U	200 U	720 U	370 U
N-Nitroso-di-n-propylamine	330	10 U	10 U	200 U	720 U	370 U
4-Methylphenol	330	10 U	10 U	74 J	720 U	370 U
Nitrobenzene	330	10 U	10 U	200 U	720 U	370 U
Isophorone	330	10 U	10 U	200 U	720 U	370 U
2-Nitrophenol	330	10 U	10 U	200 U	720 U	370 U
2,4-Dimethylphenol	330	10 U	10 U	200 U	720 U	370 U
bis(2-Chloroethoxy)methane	330	10 U	10 U	200 U	720 U	370 U
2,4-Dichlorophenol	330	10 U	10 U	200 U	720 U	370 U
1,2,4-Trichlorobenzene	330	10 U	10 U	200 U	720 U	370 U
Naphthalene	330	10 U	10 U	200 U	2300	370 U
4-Chloroaniline	330	10 U	10 U	200 U	720 U	370 U
Hexachlorobutadiene	330	10 U	10 U	200 U	720 U	370 U
4-Chloro-3-methylphenol	330	10 U	10 U	200 U	720 U	370 U
2-Methylnaphthalene	330	10 U	10 U	48 J	3700	370 U
Hexachlorocyclopentadiene	330	10 U	10 U	200 U	720 U	370 U
2,4,6-Trichlorophenol	330	10 U	10 U	200 U	720 U	370 U
2,4,5-Trichlorophenol	800	25 U	25 U	500 U	1800 U	920 U
2-Chloronaphthalene	330	10 U	10 U	200 U	720 U	370 U
2-Nitroaniline	800	25 U	25 U	500 U	1800 U	920 U
Acenaphthylene	330	10 U	10 U	200 U	720 U	370 U
Dimethylphthalate	330	10 U	10 U	200 U	720 U	370 U
2,6-Dinitrotoluene	330	10 U	10 U	200 U	720 U	370 U
Acenaphthene	330	10 U	10 U	200 U	720 U	370 U
3-Nitroaniline	800	25 U	25 U	500 U	1800 U	920 U
2,4-Dinitrophenol	800	25 U	25 U	500 U	1800 U	920 U
Dibenzofuran	330	10 U	10 U	200 U	720 U	370 U
2,4-Dinitrotoluene	330	10 U	10 U	200 U	720 U	370 U
4-Nitrophenol	800	25 U	25 U	500 U	1800 U	920 U
Fluorene	330	10 U	10 U	200 U	63 J	370 U

Semivolatile Organic Compounds						
Site		7	6	6	7	7
Location				DW1	SB7	SB7
Sample Depth					8-8.3	3.4-5.2
Sample Number		7-RB1	6-RB1	6-DW1-W1	7-SB7-8-8.3	7-SB7-3.4-5.2
Laboratory Sample ID		9604821-01	9604799-01	9604821-12	9604821-08	9604821-07
Matrix		water	water	water	soil	soil
Date Sampled		4/29/96	4/26/96	4/28/96	4/27/96	4/27/96
Date Analyzed		5/10/96	5/8/96	5/22/96	5/9/96	5/9/96
	CRQL					
4-Chlorophenyl-phenylether	330	10 U	10 U	200 U	720 U	370 U
Diethylphthalate	330	10 U	10 U	200 U	720 U	370 U
4-Nitroaniline	800	25 U	25 U	500 U	1800 U	920 U
4,6-Dinitro-2-methylphenol	800	25 U	25 U	500 U	1800 U	920 U
n-Nitrosodiphenylamine	330	10 U	10 U	200 U	720 U	370 U
4-Bromophenyl-phenylether	330	10 U	10 U	200 U	720 U	370 U
Hexachlorobenzene	330	10 U	10 U	200 U	720 U	370 U
Pentachlorophenol	800	25 U	25 U	500 U	1800 U	920 U
Phenanthrene	330	10 U	10 U	200 U	170 J	370 U
Anthracene	330	10 U	10 U	200 U	720 U	370 U
Carbazole	330	10 U	10 U	200 U	720 U	370 U
Di-n-butylphthalate	330	10 U	1 BJ	30 J	720 U	370 U
Fluoranthene	330	10 U	10 U	200 U	720 U	370 U
Pyrene	330	10 U	10 U	200 U	720 U	370 U
Butylbenzylphthalate	330	1 J	10 U	35 J	720 U	370 U
3,3'-Dichlorobenzidine	330	10 U	10 U	200 UJ	720 U	370 U
Benzo[a]anthracene	330	10 U	10 U	200 U	720 U	370 U
Chrysene	330	10 U	10 U	200 U	720 U	370 U
bis(2-Ethylhexyl)phthalate	330	21 B	2 BJ	140 J	200 J	140 J
Di-n-octylphthalate	330	2 J	10 U	200 U	720 U	370 U
Benzo[b]fluoranthene	330	10 U	10 U	200 U	720 U	370 U
Benzo[k]fluoranthene	330	10 U	10 U	200 U	720 U	370 U
Benzo[a]pyrene	330	10 U	10 U	200 U	720 U	370 U
Indeno[1,2,3-cd]pyrene	330	10 U	10 U	200 U	720 U	370 U
Dibenz[a,h]anthracene	330	10 U	10 U	200 U	720 U	370 U
Benzo[g,h,i]perylene	330	10 U	10 U	200 U	720 U	370 U
Total TIC concentration		18	20	15960	63740	1014
Units (ug/kg) Soil, (ug/L) Water	ug/kg					
Dilution Factor		1	1	20	2	1
Sample Weight/Volume		1000 mL	1000 mL	1000 mL	30.0 g	30.0 g
% Moisture		100	100	100	8	9

Semivolatile Organic Compounds						
Site		7	7	7	7	7
Location		SB7	SB6	SB6	SB6	DW1
Sample Depth		7-SB7-1-3	7.2-8	3.5-5.5	0-2	3.2-4.2
Sample Number		7-SB7-1-3	7-SB6-7.2-8	7-SB6-3.5-5.5	7-SB6-0-2	7-DW1-3.2-4.2
Laboratory Sample ID		9604821-06	9604821-05	9604821-04	9604821-03	9604821-10
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/27/96	4/27/96	4/27/96	4/27/96	4/27/96
Date Analyzed		5/9/96	5/9/96	5/9/96	5/9/96	5/21/96
	CRQL					
bis(2-Chloroethyl)ether	330	420 U	840 U	370 U	760 U	770 U
Phenol	330	420 U	840 U	370 U	760 U	770 U
2-Chlorophenol	330	420 U	840 U	370 U	760 U	770 U
1,3-Dichlorobenzene	330	420 U	840 U	370 U	760 U	770 U
1,4-Dichlorobenzene	330	420 U	840 U	370 U	760 U	770 U
1,2-Dichlorobenzene	330	420 U	840 U	370 U	760 U	770 U
2,2'-oxybis(1-chloropropane)	330	420 U	840 U	370 U	760 U	770 U
2-Methylphenol	330	420 U	840 U	370 U	760 U	770 U
Hexachloroethane	330	420 U	840 U	370 U	760 U	770 U
N-Nitroso-di-n-propylamine	330	420 U	840 U	370 U	760 U	770 U
4-Methylphenol	330	420 U	840 U	370 U	760 U	770 U
Nitrobenzene	330	420 U	840 U	370 U	760 U	770 U
Isophorone	330	420 U	840 U	370 U	760 U	770 U
2-Nitrophenol	330	420 U	840 U	370 U	760 U	770 U
2,4-Dimethylphenol	330	420 U	840 U	370 U	760 U	770 U
bis(2-Chloroethoxy)methane	330	420 U	840 U	370 U	760 U	770 U
2,4-Dichlorophenol	330	420 U	840 U	370 U	760 U	770 U
1,2,4-Trichlorobenzene	330	420 U	840 U	370 U	760 U	770 U
Naphthalene	330	420 U	1800	370 U	760 U	16 J
4-Chloroanilirte	330	420 U	840 U	370 U	760 U	770 U
Hexachlorobutadiene	330	420 U	840 U	370 U	760 U	770 U
4-Chloro-3-methylphenol	330	420 U	840 U	370 U	760 U	770 U
2-Methylnaphthalene	330	420 U	3800	370 U	760 U	19 J
Hexachlorocyclopentadiene	330	420 U	840 U	370 U	760 U	770 U
2,4,6-Trichlorophenol	330	420 U	840 U	370 U	760 U	770 U
2,4,5-Trichlorophenol	800	1000 U	2100 U	930 U	1900 U	1900 U
2-Chloronaphthalene	330	420 U	840 U	370 U	760 U	770 U
2-Nitroaniline	800	1000 U	2100 U	930 U	1900 U	1900 U
Acenaphthylene	330	420 U	840 U	370 U	760 U	770 U
Dimethylphthalate	330	420 U	840 U	370 U	760 U	770 U
2,6-Dinitrotoluene	330	420 U	840 U	370 U	760 U	770 U
Acenaphthene	330	420 U	840 U	370 U	760 U	770 U
3-Nitroaniline	800	1000 U	2100 U	930 U	1900 U	1900 U
2,4-Dinitrophenol	800	1000 U	2100 U	930 U	1900 U	1900 U
Dibenzofuran	330	420 U	840 U	370 U	760 U	770 U
2,4-Dinitrotoluene	330	420 U	840 U	370 U	760 U	770 U
4-Nitrophenol	800	1000 U	2100 U	930 U	1900 U	1900 U
Fluorene	330	420 U	60 J	370 U	760 U	770 U

Semivolatile Organic Compounds						
Site		7	7	7	7	7
Location		SB7	SB6	SB6	SB6	DW1
Sample Depth		7-SB7-1-3	7.2-8	3.5-5.5	0-2	3.2-4.2
Sample Number		7-SB7-1-3	7-SB6-7.2-8	7-SB6-3.5-5.5	7-SB6-0-2	7-DW1-3.2-4.2
Laboratory Sample ID		9604821-06	9604821-05	9604821-04	9604821-03	9604821-10
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/27/96	4/27/96	4/27/96	4/27/96	4/27/96
Date Analyzed		5/9/96	5/9/96	5/9/96	5/9/96	5/21/96
	CRQL					
4-Chlorophenyl-phenylether	330	420 U	840 U	370 U	760 U	770 U
Diethylphthalate	330	420 U	840 U	370 U	760 U	770 U
4-Nitroaniline	800	1000 U	2100 U	930 U	1900 U	1900 U
4,6-Dinitro-2-methylphenol	800	1000 U	2100 U	930 U	1900 U	1900 U
n-Nitrosodiphenylamine	330	420 U	840 U	370 U	760 U	770 U
4-Bromophenyl-phenylether	330	420 U	840 U	370 U	760 U	770 U
Hexachlorobenzene	330	420 U	840 U	370 U	760 U	770 U
Pentachlorophenol	800	1000 U	2100 U	930 U	1900 U	1900 U
Phenanthrene	330	420 U	140 J	370 U	760 U	12 J
Anthracene	330	420 U	840 U	370 U	760 U	770 U
Carbazole	330	420 U	840 U	370 U	760 U	770 U
Di-n-butylphthalate	330	420 U	840 U	370 U	760 U	770 U
Fluoranthene	330	420 U	840 U	370 U	760 U	17 J
Pyrene	330	420 U	840 U	370 U	760 U	19 J
Butylbenzylphthalate	330	420 U	840 U	370 U	760 U	770 U
3,3'-Dichlorobenzidine	330	420 U	840 U	370 U	760 U	770 U
Benzo[a]anthracene	330	420 U	840 U	370 U	760 U	770 U
Chrysene	330	420 U	840 U	370 U	760 U	770 U
bis(2-Ethylhexyl)phthalate	330	130 J	840 U	370 U	760 U	920
Di-n-octylphthalate	330	420 U	840 U	370 U	760 U	43 J
Benzo[b]fluoranthene	330	420 U	840 U	370 U	760 U	770 U
Benzo[k]fluoranthene	330	420 U	840 U	370 U	760 U	770 U
Benzo[a]pyrene	330	420 U	840 U	370 U	760 U	770 U
Indeno[1,2,3-cd]pyrene	330	420 U	840 U	370 U	760 U	770 U
Dibenz[a,h]anthracene	330	420 U	840 U	370 U	760 U	770 U
Benzo[g,h,i]perylene	330	420 U	840 U	370 U	760 U	770 U
Total TIC concentration		2507	55330	406	160	3360
Units (ug/kg) Soil, (ug/L) Water	ug/kg					
Dilution Factor		1	2	1	2	2
Sample Weight/Volume		30.0 g	30.0 g	30.0 g	30.0 g	30.0 g
% Moisture		20	21	10	12	13

Semivolatile Organic Compounds					
Site		7	6	6	6
Location		DW1	SB17	SB17	SB17
Sample Depth		1.2-3.2	9.5-9.9	4.5-5.8	0.5-2.5
Sample Number		7-DW1-1.2-3.2	6-SB17-9.5-9.9	6-SB17-4.5-5.8	6-SB17-0.5-2.5
Laboratory Sample ID		9604821-09	9604799-04	9604799-03	9604799-02
Matrix		soil	soil	soil	soil
Date Sampled		4/27/96	4/26/96	4/26/96	4/26/96
Date Analyzed		5/9/96	5/8/96	5/10/96	5/8/96
	CRQL				
bis(2-Chloroethyl)ether	330	410 U	360 U	3700 U	350 U
Phenol	330	410 U	360 U	3700 U	350 U
2-Chlorophenol	330	410 U	360 U	3700 U	350 U
1,3-Dichlorobenzene	330	410 U	360 U	3700 U	350 U
1,4-Dichlorobenzene	330	410 U	360 U	3700 U	350 U
1,2-Dichlorobenzene	330	410 U	360 U	3700 U	350 U
2,2'-oxybis(1-chloropropane)	330	410 U	360 U	3700 U	350 U
2-Methylphenol	330	410 U	360 U	3700 U	350 U
Hexachloroethane	330	410 U	360 U	3700 U	350 U
N-Nitroso-di-n-propylamine	330	410 U	360 U	3700 U	350 U
4-Methylphenol	330	410 U	360 U	3700 U	350 U
Nitrobenzene	330	410 U	360 U	3700 U	350 U
Isophorone	330	410 U	360 U	3700 U	350 U
2-Nitrophenol	330	410 U	360 U	3700 U	350 U
2,4-Dimethylphenol	330	410 U	360 U	3700 U	350 U
bis(2-Chloroethoxy)methane	330	410 U	360 U	3700 U	350 U
2,4-Dichlorophenol	330	410 U	360 U	3700 U	350 U
1,2,4-Trichlorobenzene	330	410 U	360 U	3700 U	350 U
Naphthalene	330	410 U	2000	13000	420
4-Chloroaniline	330	410 U	360 U	3700 U	350 U
Hexachlorobutadiene	330	410 U	360 U	3700 U	350 U
4-Chloro-3-methylphenol	330	410 U	360 U	3700 U	350 U
2-Methylnaphthalene	330	410 U	1300	12000	110 J
Hexachlorocyclopentadiene	330	410 U	360 U	3700 U	350 U
2,4,6-Trichlorophenol	330	410 U	360 U	3700 U	350 U
2,4,5-Trichlorophenol	800	1000 U	900 U	9200 U	890 U
2-Chloronaphthalene	330	410 U	360 U	3700 U	350 U
2-Nitroaniline	800	1000 U	900 U	9200 U	890 U
Acenaphthylene	330	410 U	360 U	3700 U	350 U
Dimethylphthalate	330	410 U	360 U	3700 U	350 U
2,6-Dinitrotoluene	330	410 U	360 U	3700 U	350 U
Acenaphthene	330	410 U	360 U	3700 U	350 U
3-Nitroaniline	800	1000 U	900 U	9200 U	890 U
2,4-Dinitrophenol	800	1000 U	900 U	9200 U	890 U
Dibenzofuran	330	410 U	360 U	3700 U	350 U
2,4-Dinitrotoluene	330	410 U	360 U	3700 U	350 U
4-Nitrophenol	800	1000 U	900 U	9200 U	890 U
Fluorene	330	410 U	360 U	3700 U	350 U

Semivolatile Organic Compounds					
Site		7	6	6	6
Location		DW1	SB17	SB17	SB17
Sample Depth		1.2-3.2	9.5-9.9	4.5-5.8	0.5-2.5
Sample Number		7-DW1-1.2-3.2	6-SB17-9.5-9.9	6-SB17-4.5-5.8	6-SB17-0.5-2.5
Laboratory Sample ID		9604821-09	9604799-04	9604799-03	9604799-02
Matrix		soil	soil	soil	soil
Date Sampled		4/27/96	4/26/96	4/26/96	4/26/96
Date Analyzed		5/9/96	5/8/96	5/10/96	5/8/96
	CRQL				
4-Chlorophenyl-phenylether	330	410 U	360 U	3700 U	350 U
Diethylphthalate	330	410 U	360 U	3700 U	350 U
4-Nitroaniline	800	1000 U	900 U	9200 U	890 U
4,6-Dinitro-2-methylphenol	800	1000 U	900 U	9200 U	890 U
n-Nitrosodiphenylamine	330	410 U	360 U	3700 U	350 U
4-Bromophenyl-phenylether	330	410 U	360 U	3700 U	350 U
Hexachlorobenzene	330	410 U	360 U	3700 U	350 U
Pentachlorophenol	800	1000 U	900 U	9200 U	890 U
Phenanthrene	330	410 U	360 U	3700 U	350 U
Anthracene	330	410 U	360 U	3700 U	350 U
Carbazole	330	410 U	360 U	3700 U	350 U
Di-n-butylphthalate	330	410 U	120 J	3700 U	350 U
Fluoranthene	330	410 U	360 U	3700 U	350 U
Pyrene	330	410 U	360 U	3700 U	350 U
Butylbenzylphthalate	330	410 U	360 U	3700 U	350 U
3,3'-Dichlorobenzidine	330	410 U	360 UJ	3700 UJ	350 UJ
Benzo[a]anthracene	330	410 U	360 U	3700 U	350 U
Chrysene	330	410 U	360 U	3700 U	350 U
bis(2-Ethylhexyl)phthalate	330	410 U	160 J	1200 J	350 U
Di-n-octylphthalate	330	410 U	360 U	3700 U	350 U
Benzo[b]fluoranthene	330	410 U	360 U	3700 U	350 U
Benzo[k]fluoranthene	330	410 U	360 U	3700 U	350 U
Benzo[a]pyrene	330	410 U	360 U	3700 U	350 U
Indeno[1,2,3-cd]pyrene	330	410 U	360 U	3700 U	350 U
Dibenz[a,h]anthracene	330	410 U	360 U	3700 U	350 U
Benzo[g,h,i]perylene	330	410 U	360 U	3700 U	350 U
Total TIC concentration		3362	52160	1018000	103610
Units (ug/kg) Soil, (ug/L) Water	ug/kg				
Dilution Factor		1	1	10	1
Sample Weight/Volume		30.0g	30.0 g	30.0 g	30.0 g
% Moisture		18	7	9	6

Inorganics	CRDL				
Site		7	6	6	7
Location					SB7
Sample Depth					8-8.3
Sample Number		7-RB1	6-RB1	6-DW1-W1	7-SB7-8-8.3
Laboratory Sample ID		9604821-01	9604799-01	9604821-12	9604821-08
Matrix		water	water	water	soil
Date Sampled		4/29/96	4/26/96	4/28/96	4/27/96
Date Analyzed		5/8-13/97	5/8-13/97	5/8-13/97	5/8-13/97
Antimony	* 6	5 U	5 U	44.5	1.1 U
Arsenic	10	1 U	1 U	13.2 U	3.4 U
Barium	200	4 U	4 U	578	729
Beryllium	* 4	0.3 U	0.3 U	0.3 U	0.3 U
Cadmium	5	2 U	2 U	268	0.43 U
Chromium	10	6 U	6 U	945	10.9
Copper	25	4 U	4 U	1640	13.3
Lead	3	1 U	1 U	1280	9.2
Mercury	0.2	0.2 U	0.2 U	2.4	0.11 U
Nickel	40	5 U	5 U	1040	12.1
Selenium	5	1 U	1 U	1 UJ	0.18 UJ
Silver	10	3 U	3 U	6.3 J	0.65 U
Thallium	* 2	2 U	3.5	2.1 J	0.36 U
Zinc	20	12.3 B	8.6 B	1730	37
Units (mg/kg) Soil, (ug/L) Water	ug/L				
% Solids					91.8

* Project-specific CRDL

Inorganics	CRDL				
Site		7	7	7	7
Location		SB7	SB7	SB6	SB6
Sample Depth		3.4-5.2	7-SB7-1-3	7.2-8	3.5-5.5
Sample Number		7-SB7-3.4-5.2	7-SB7-1-3	7-SB6-7.2-8	7-SB6-3.5-5.5
Laboratory Sample ID		9604821-07	9604821-06	9604821-05	9604821-04
Matrix		soil	soil	soil	soil
Date Sampled		4/27/96	4/27/96	4/27/96	4/27/96
Date Analyzed		5/8-13/97	5/8-13/97	5/8-13/97	5/8-13/97
Antimony	* 6	0.91 U	1.1 U	1.2 U	1 U
Arsenic	10	2.9 U	9.9	3 U	2 U
Barium	200	122	292	165	167
Beryllium	* 4	0.31 U	0.62 U	0.31 U	0.23 U
Cadmium	5	0.37 U	0.44 U	0.48 U	0.41 U
Chromium	10	6.3	17.5	10.4	6.5
Copper	25	10.5	13.9	17	13.1
Lead	3	5.8	9.3	11.7	4.5
Mercury	0.2	0.11 U	0.12 U	0.13 U	0.09 U
Nickel	40	9.3	16.1	9.3 J	7.6 J
Selenium	5	0.17 UJ	0.18 UJ	0.2 UJ	0.19 UJ
Silver	10	0.55 U	0.66 U	0.73 U	0.62 U
Thallium	* 2	0.34 U	0.37 U	0.39 U	0.37 U
Zinc	20	41.5	43.5	48.2	36.6
Units (mg/kg) Soil, (ug/L) Water	ug/L				
% Solids		91.2	80.2	78.7	89.8

* Project-specific CRDL

Inorganics					
Site		7	7	7	6
Location		SB6	DW1	DW1	SB17
Sample Depth		0-2	3.2-4.2	1.2-3.2	9.5-9.9
Sample Number		7-SB6-0-2	7-DW1-3.2-4.2	7-DW1-1.2-3.2	6-SB17-9.5-9.9
Laboratory Sample ID		9604821-03	9604821-10	9604821-09	9604799-04
Matrix		soil	soil	soil	soil
Date Sampled		4/27/96	4/27/96	4/27/96	4/26/96
Date Analyzed		5/8-13/97	5/8-13/97	5/8-13/97	5/8-13/97
	CRDL				
Antimony	* 6	1.1 U	1 U	1.1 U	1.1 U
Arsenic	10	6.9 U	7.5 U	6.8 U	5.9 U
Barium	200	181	229	239	119
Beryllium	* 4	0.33 U	0.53 U	0.71 U	0.28 U
Cadmium	5	0.44 U	0.41 U	0.44 U	0.43 U
Chromium	10	10.7	13.1	19.3	7.8
Copper	25	19.7	15.1	18.9	15.3
Lead	3	7.5	9.4	8.5	5.9
Mercury	0.2	0.08 U	0.11	0.11 U	0.11 U
Nickel	40	10.9	13.5	16.2	11.9
Selenium	5	0.16 UJ	0.19 UJ	0.87 UJ	0.17 UJ
Silver	10	0.65 U	0.61 U	0.66 U	0.64 U
Thallium	* 2	0.32 U	0.38 U	0.35 U	0.34
Zinc	20	45.8	50.8	45.7	38.7
Units (mg/kg) Soil, (ug/L) Water	ug/L				
% Solids		88.4	87.4	81.6	92.5

* Project-specific CRDL

Inorganics

Site		6	6
Location		SB17	SB17
Sample Depth		4.5-5.8	0.5-2.5
Sample Number		6-SB17-4.5-5.8	6-SB17-0.5-2.5
Laboratory Sample ID		9604799-03	9604799-02
Matrix		soil	soil
Date Sampled		4/26/96	4/26/96
Date Analyzed		5/8-13/97	5/8-13/97
	CRDL		
Antimony	* 6	0.79 U	1 U
Arsenic	10	2.2 U	4.1 U
Barium	200	186	444
Beryllium	* 4	0.3 U	0.28 U
Cadmium	5	0.32 U	0.41 U
Chromium	10	7.1	9.2
Copper	25	13.4	10.7
Lead	3	8.8	4.4
Mercury	0.2	0.09 U	0.1
Nickel	40	8.2	9.4
Selenium	5	0.19 UJ	0.18 UJ
Silver	10	0.48 U	0.61 U
Thallium	* 2	0.37 U	0.35 U
Zinc	20	38.9	32.8
Units (mg/kg) Soil, (ug/L) Water	ug/L		
% Solids		91.2	94

* Project-specific CRDL

JP4, Gas, Diesel, Oil					
Site		7	6	6	7
Location					SB7
Sample Depth					8-8.3
Sample Number		7-RB1	6-RB1	6-DW1-W1	7-SB7-8-8.3
Laboratory Sample ID		9604821-01	9604799-01	9604821-12	9604821-08
Matrix		water	water	water	soil
Date Sampled		4/29/96	4/26/96	4/28/96	4/27/96
Date Analyzed		5/8-10/96	5/10/96	5/9-10/96	5/9-13/96
	* RL				
JP-4	10	0.25 U	NA	150	950
Diesel range, as diesel	10	0.25 U	NA	82	800
Oil range, as oil	100	1 U	NA	78	8400
Gasoline range	5	0.25 U	0.25 U	59 NJ	1700 NJ
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		100	100	100	8
* Reporting Limit					

JP4, Gas, Diesel, Oil					
Site		7	7	7	7
Location		SB7	SB7	SB6	SB6
Sample Depth		3.4-5.2	7-SB7-1-3	7.2-8	3.5-5.5
Sample Number		7-SB7-3.4-5.2	7-SB7-1-3	7-SB6-7.2-8	7-SB6-3.5-5.5
Laboratory Sample ID		9604821-07	9604821-06	9604821-05	9604821-04
Matrix		soil	soil	soil	soil
Date Sampled		4/27/96	4/27/96	4/27/96	4/27/96
Date Analyzed		5/8-13/96	5/8-10/96	5/8-13/96	5/8-10/96
	* RL				
JP-4	10	11 U	12 U	470	11 U
Diesel range, as diesel	10	60	12 U	900	11 U
Oil range, as oil	100	460	120 U	8900	110 U
Gasoline range	5	8.1 NJ	6.2 U	960 NJ	5.6 U
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		9	20	21	10
* Reporting Limit					

JP4, Gas, Diesel, Oil					
Site		7	7	7	6
Location		SB6	DW1	DW1	SB17
Sample Depth		0-2	3.2-4.2	1.2-3.2	9.5-9.9
Sample Number		7-SB6-0-2	7-DW1-3.2-4.2	7-DW1-1.2-3.2	6-SB17-9.5-9.9
Laboratory Sample ID		9604821-03	9604821-10	9604821-09	9604799-04
Matrix		soil	soil	soil	soil
Date Sampled		4/27/96	4/27/96	4/27/96	4/26/96
Date Analyzed		5/9-13/96	5/8-13/96	5/8-13/96	5/9-13/96
	* RL				
JP-4	10	11 U	11 U	12 U	2600
Diesel range, as diesel	10	11 U	13	12 U	690
Oil range, as oil	100	110 U	140	120 U	1100
Gasoline range	5	5.7 U	5.7 U	6.1 U	2900 NJ
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		12	13	18	8
* Reporting Limit					

JP4, Gas, Diesel, Oil			
Site		6	6
Location		SB17	SB17
Sample Depth		4.5-5.8	0.5-2.5
Sample Number		6-SB17-4.5-5.8	6-SB17-0.5-2.5
Laboratory Sample ID		9604799-03	9604799-02
Matrix		soil	soil
Date Sampled		4/26/96	4/26/96
Date Analyzed		5/10-13/96	5/10-13/96
	* RL		
JP-4	10	7800	1300
Diesel range, as diesel	10	2800	18 NJ
Oil range, as oil	100	14000	110 U
Gasoline range	5	17000 NJ	2600 NJ
Units (mg/kg) Soil, (mg/L) Water	mg/kg		
% Moisture		9	6
* Reporting Limit			

Volatile Organic Compounds						
Site		8	8	8	7	8
Location						SB9
Sample Depth						8.5-9.4
Sample Number		8-TB4	8-TB3	8-RB2	7-TB1	8-SB9-8.5-9.4
Laboratory Sample ID		9605024-12	9605024-07	9605024-11	9604830-06	9605024-06
Matrix		water	water	water	water	soil
Date Sampled		4/30/96	4/30/96	4/30/96	4/27/96	4/30/96
Date Analyzed		5/8/96	5/8/96	5/8/96	5/2/96	5/6/96
	CRQL					
Chloromethane	10	10 U	10 U	10 U	10 U	11 U
Vinyl Chloride	10	10 U	10 U	10 U	10 U	11 U
Bromomethane	10	10 U	10 U	10 U	10 U	11 U
Chloroethane	10	10 U	10 U	10 U	10 U	11 U
1,1-Dichloroethene	10	10 U	10 U	10 U	10 U	11 U
Acetone	10	6 J	10 U	16	10 U	93
Carbon Disulfide	10	10 U	10 U	10 U	10 U	1 J
Methylene Chloride	10	1 J	1 J	10 U	10 U	11 U
1,1-Dichloroethane	10	10 U	10 U	10 U	10 U	11 U
2-Butanone	10	10 U	10 U	10 U	10 U	8 J
Chloroform	10	10 U	10 U	10 U	10 U	11 U
1,1,1-Trichloroethane	10	10 U	10 U	10 U	10 U	11 U
Carbon Tetrachloride	10	10 U	10 U	10 U	10 U	11 U
Benzene	10	10 U	10 U	10 U	10 U	11 U
1,2-Dichloroethane	10	10 U	10 U	10 U	10 U	11 U
Trichloroethene	10	10 U	10 U	10 U	10 U	11 U
1,2-Dichloropropane	10	10 U	10 U	10 U	10 U	11 U
Bromodichloromethane	10	10 U	10 U	10 U	10 U	11 U
cis-1,3-Dichloropropene	10	10 U	10 U	10 U	10 U	11 U
4-Methyl-2-Pentanone	10	10 U	10 U	10 U	10 U	11 U
Toluene	10	10 U	10 U	10 U	10 U	1 J
trans-1,3-Dichloropropene	10	10 U	10 U	10 U	10 U	11 U
1,1,2-Trichloroethane	10	10 U	10 U	10 U	10 U	11 U
Tetrachloroethene	10	10 U	10 U	10 U	10 U	11 U
2-Hexanone	10	10 U	10 U	10 U	10 U	2 J
Dibromochloromethane	10	10 U	10 U	10 U	10 U	11 U
Chlorobenzene	10	10 U	10 U	10 U	10 U	11 U
Ethylbenzene	10	10 U	10 U	10 U	10 U	11 U
Styrene	10	10 U	10 U	10 U	10 U	11 U
Bromoform	10	10 U	10 U	10 U	10 U	11 U
1,1,2,2-Tetrachloroethane	10	10 U	10 U	10 U	10 U	11 U
1,2-Dichloroethene (total)	10	10 U	10 U	10 U	10 U	11 U
Xylene (total)	10	10 U	10 U	10 U	10 U	11 U
Total TIC concentration		16	0	20	0	0
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		1	1	1	1	1
Sample Weight/Volume		5.0 mL	5.0 mL	5.0 mL	5.0 mL	5.0 g
% Moisture		100	100	100	100	8

Volatile Organic Compounds						
Site		8	8	8	8	8
Location		SB9	SB9	SB10	SB10	SB10
Sample Depth		4.5-5.5	8-SB9-1-3	9-9.9	4.5-6.5	4.5-6.5
Sample Number		8-SB9-4.5-5.5	8-SB9-1-3	8-SB10-9-9.9	8-SB10-4.5-6.5DL	8-SB10-4.5-6.5
Laboratory Sample ID		9605024-05	9605024-04	9605024-10	9605024-09DL	9605024-09
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/30/96	4/30/96	4/30/96	4/30/96	4/30/96
Date Analyzed		5/6/96	5/3/96	5/6/96	5/7/96	5/6/96
	CRQL					
Chloromethane	10	11 U	11 U	11 U	1500 U	12 U
Vinyl Chloride	10	11 U	11 U	11 U	1500 U	12 U
Bromomethane	10	11 U	11 UJ	11 U	1500 U	12 U
Chloroethane	10	11 U	11 UJ	11 U	1500 U	12 U
1,1-Dichloroethene	10	11 U	11 U	11 U	1500 U	12 U
Acetone	10	82	28 B	160	900 J	490 J
Carbon Disulfide	10	11 U	11 U	11 U	1500 U	12 U
Methylene Chloride	10	11 U	11 U	11 U	1500 U	12 U
1,1-Dichloroethane	10	11 U	11 U	11 U	1500 U	12 U
2-Butanone	10	11 U	4 J	10 J	1500 U	2 J
Chloroform	10	11 U	11 U	11 U	1500 U	12 U
1,1,1-Trichloroethane	10	11 U	11 U	11 U	1500 U	12 U
Carbon Tetrachloride	10	11 U	11 U	11 U	1500 U	12 U
Benzene	10	11 U	11 U	11 U	1500 U	12 U
1,2-Dichloroethane	10	11 U	11 U	11 U	1500 U	12 U
Trichloroethene	10	11 U	11 U	11 U	1500 U	12 U
1,2-Dichloropropane	10	11 U	11 U	11 U	1500 U	12 U
Bromodichloromethane	10	11 U	11 U	11 U	1500 U	12 U
cis-1,3-Dichloropropene	10	11 U	11 U	11 U	1500 U	12 U
4-Methyl-2-Pentanone	10	11 U	6 J	11 U	1500 U	12 U
Toluene	10	1 J	11 U	1 J	1500 U	1 J
trans-1,3-Dichloropropene	10	11 U	11 U	11 U	1500 U	12 U
1,1,2-Trichloroethane	10	11 U	11 U	11 U	1500 U	12 U
Tetrachloroethene	10	11 U	11 U	11 U	1500 U	12 U
2-Hexanone	10	11 U	4 J	11 U	1500 U	12 U
Dibromochloromethane	10	11 U	11 U	11 U	1500 U	12 U
Chlorobenzene	10	11 U	11 U	11 U	1500 U	12 U
Ethylbenzene	10	11 U	11 U	11 U	1500 U	12 U
Styrene	10	11 U	11 U	11 U	1500 U	12 U
Bromoform	10	11 U	11 U	11 U	1500 U	12 U
1,1,2,2-Tetrachloroethane	10	11 U	11 U	11 U	1500 U	12 U
1,2-Dichloroethene (total)	10	11 U	11 U	11 U	1500 U	12 U
Xylene (total)	10	1 J	11 U	1 J	1500 U	1 J
Total TIC concentration		21	14	27	0	14
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		1	1	1	1	1
Sample Weight/Volume		5.0 g	5.0 g	5.0 g	4.0 g (Medium level)	5.0 g
% Moisture		9	12	8	18	18

Volatile Organic Compounds						
Site		8	8	7	7	7
Location		SB10	SB10	SB5	SB5	SB5
Sample Depth		4.5-6.5	1-3.	8-8.6	4.5-5.4	1-3.
Sample Number		8-SB10-4.5-6.5	8-SB10-1-3	7-SB5-8-8.6	7-SB5-4.5-5.4	7-SB5-1-3DL
Laboratory Sample ID		9605024-09	9605024-08	9604830-03	9604830-02	9604830-01DL
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/30/96	4/30/96	4/27/96	4/27/96	4/27/96
Date Analyzed		Composite result	5/6/96	5/2/96	5/2/96	5/9/96
	CRQL					
Chloromethane	10	12 U	11 U	1400 U	1400 U	58 U
Vinyl Chloride	10	12 U	11 U	1400 U	1400 U	58 U
Bromomethane	10	12 U	11 U	1400 U	1400 U	58 U
Chloroethane	10	12 U	11 U	1400 U	1400 U	58 U
1,1-Dichloroethene	10	12 U	11 U	1400 U	1400 U	58 U
Acetone	10	900 J	210	1400 U	920 J	850 J
Carbon Disulfide	10	12 U	1 J	1400 U	1400 U	58 U
Methylene Chloride	10	12 U	11 U	1400 U	1400 U	26 J
1,1-Dichloroethane	10	12 U	11 U	1400 U	1400 U	58 U
2-Butanone	10	2 J	2 J	1400 U	1400 U	57 J
Chloroform	10	12 U	11 U	730 J	1400 U	58 U
1,1,1-Trichloroethane	10	12 U	11 U	1400 U	1400 U	58 U
Carbon Tetrachloride	10	12 U	11 U	1400 U	1400 U	58 U
Benzene	10	12 U	11 U	830 J	1400 U	5 J
1,2-Dichloroethane	10	12 U	11 U	1400 U	1400 U	58 U
Trichloroethene	10	12 U	11 U	1400 U	1400 U	4 J
1,2-Dichloropropane	10	12 U	11 U	1400 U	1400 U	58 U
Bromodichloromethane	10	12 U	11 U	1400 U	1400 U	58 U
cis-1,3-Dichloropropene	10	12 U	11 U	1400 U	1400 U	58 U
4-Methyl-2-Pentanone	10	12 U	11 U	1400 U	1400 U	58 U
Toluene	10	1 J	1 J	5700	1400 U	6 J
trans-1,3-Dichloropropene	10	12 U	11 U	1400 U	1400 U	58 U
1,1,2-Trichloroethane	10	12 U	11 U	1400 U	1400 U	58 U
Tetrachloroethene	10	12 U	11 U	1400 U	1400 U	58 U
2-Hexanone	10	12 U	11 U	1400 U	1400 U	58 U
Dibromochloromethane	10	12 U	11 U	1400 U	1400 U	58 U
Chlorobenzene	10	12 U	11 U	1400 U	1400 U	58 U
Ethylbenzene	10	12 U	11 U	13000	190 J	58 U
Styrene	10	12 U	11 U	1400 U	1400 U	58 U
Bromoform	10	12 U	11 U	1400 U	1400 U	58 U
1,1,2,2-Tetrachloroethane	10	12 U	11 U	1400 U	1400 U	58 U
1,2-Dichloroethene (total)	10	12 U	11 U	1400 U	1400 U	58 U
Xylene (total)	10	1 J	11 U	80000	1600	4 J
Total TIC concentration			15	170000	29380	70
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor			1	1	1	1
Sample Weight/Volume		Composite result	5.0 g	4.0 g (Medium level)	4.0 g (Medium level)	1.0 g
% Moisture		18	10	8	8	14

Volatile Organic Compounds	CRQL					
Site		7	7	6	6	6
Location		SB5	SB5	SB16	SB16	SB16
Sample Depth		1-3.	1-3.	8.5-9.5	3.9-4.5	0.9-3.9
Sample Number		7-SB5-1-3	7-SB5-1-3	6-SB16-8.5-9.5	6-SB16-3.9-4.5	6-SB16-0.9-3.9
Laboratory Sample ID		9604830-01	9604830-01	9605024-03	9605024-02	9605024-01
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/27/96	4/27/96	4/30/96	4/30/96	4/30/96
Date Analyzed		5/6/96	Composite result	5/2/96	5/3/96	5/3/96
Chloromethane	10	12 U	12 U	1300 U	11 U	11 U
Vinyl Chloride	10	12 U	12 U	1300 U	11 U	11 U
Bromomethane	10	12 U	12 U	1300 U	11 UJ	11 UJ
Chloroethane	10	12 U	12 U	1300 U	11 UJ	11 UJ
1,1-Dichloroethene	10	12 U	12 U	1300 U	11 U	11 U
Acetone	10	750 J	850 J	2000	140	130
Carbon Disulfide	10	12 U	12 U	1300 U	11 U	11 U
Methylene Chloride	10	12 U	12 U	1300 U	11 U	11 U
1,1-Dichloroethane	10	12 U	12 U	1300 U	11 U	11 U
2-Butanone	10	8 J	8 J	1300 U	9 J	8 J
Chloroform	10	12 U	12 U	1300 U	11 U	1 J
1,1,1-Trichloroethane	10	12 U	12 U	1300 U	11 U	11 U
Carbon Tetrachloride	10	12 U	12 U	1300 U	11 U	11 U
Benzene	10	12 U	12 U	1300 U	11 U	11 U
1,2-Dichloroethane	10	12 U	12 U	1300 U	11 U	11 U
Trichloroethene	10	12 U	12 U	1300 U	11 U	11 U
1,2-Dichloropropane	10	12 U	12 U	1300 U	11 U	11 U
Bromodichloromethane	10	12 U	12 U	1300 U	11 U	11 U
cis-1,3-Dichloropropene	10	12 U	12 U	1300 U	11 U	11 U
4-Methyl-2-Pentanone	10	12 U	12 U	1300 U	11 U	11 U
Toluene	10	2 J	2 J	1300 U	11 U	11 J
trans-1,3-Dichloropropene	10	12 U	12 U	1300 U	11 U	11 U
1,1,2-Trichloroethane	10	12 U	12 U	1300 U	11 U	11 U
Tetrachloroethene	10	12 U	12 U	1300 U	11 U	11 U
2-Hexanone	10	12 U	12 U	1300 U	5 J	5 J
Dibromochloromethane	10	12 U	12 U	1300 U	11 U	11 U
Chlorobenzene	10	12 U	12 U	1300 U	11 U	11 U
Ethylbenzene	10	1 J	1 J	100 J	11 U	11 U
Styrene	10	12 U	12 U	1300 U	11 U	11 U
Bromoform	10	12 U	12 U	1300 U	11 U	11 U
1,1,2,2-Tetrachloroethane	10	12 U	12 U	1300 U	11 U	11 U
1,2-Dichloroethene (total)	10	12 U	12 U	1300 U	11 U	11 U
Xylene (total)	10	4 J	4 J	510 J	11 U	11 U
Total TIC concentration		127		38400	14	33
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		1		1	1	1
Sample Weight/Volume		5.0 g	Composite result	4.0 g (Medium level)	5.0 g	5.0 g
% Moisture		14	14	7	9	12

Volatile Organic Compounds					
Site		6	6	6	6
Location		DW1	DW1	DW1	DW1
Sample Depth		7.3-7.6	4.1-4.6	4.1-4.6	4.1-4.6
Sample Number		6-DW1-7.3-7.6	6-DW1-4.1-4.6DL	6-DW1-4.1-4.6	6-DW1-4.1-4.6
Laboratory Sample ID		9604830-05	9604830-04DL	9604830-04	9604830-04
Matrix		soil	soil	soil	soil
Date Sampled		4/27/96	4/27/96	4/27/96	4/27/96
Date Analyzed		5/2/96	5/9/96	5/2/96	Composite result
	CRQL				
Chloromethane	10	1400 U	2700 UJ	1400 U	1400 U
Vinyl Chloride	10	1400 U	2700 UJ	1400 U	1400 U
Bromomethane	10	1400 U	2700 UJ	1400 U	1400 U
Chloroethane	10	1400 U	2700 UJ	1400 U	1400 U
1,1-Dichloroethene	10	1400 U	2700 UJ	1400 U	1400 U
Acetone	10	1400 U	2700 UJ	1400 U	1400 U
Carbon Disulfide	10	1400 U	2700 UJ	1400 U	1400 U
Methylene Chloride	10	1400 U	250 J	1400 U	1400 U
1,1-Dichloroethane	10	1400 U	2700 UJ	1400 U	1400 U
2-Butanone	10	1400 U	2700 UJ	1400 U	1400 U
Chloroform	10	1400 U	2700 UJ	1400 U	1400 U
1,1,1-Trichloroethane	10	1400 U	2700 UJ	1400 U	1400 U
Carbon Tetrachloride	10	1400 U	2700 UJ	1400 U	1400 U
Benzene	10	1400 U	2700 UJ	1400 U	1400 U
1,2-Dichloroethane	10	1400 U	2700 UJ	1400 U	1400 U
Trichloroethene	10	1400 U	230 J	280 J	280 J
1,2-Dichloropropane	10	1400 U	2700 UJ	1400 U	1400 U
Bromodichloromethane	10	1400 U	2700 UJ	1400 U	1400 U
cis-1,3-Dichloropropene	10	1400 U	2700 UJ	1400 U	1400 U
4-Methyl-2-Pentanone	10	1400 U	2700 UJ	1400 U	1400 U
Toluene	10	4500	55000 J	60000 J	55000 J
trans-1,3-Dichloropropene	10	1400 U	2700 UJ	1400 U	1400 U
1,1,2-Trichloroethane	10	1400 U	2700 UJ	1400 U	1400 U
Tetrachloroethene	10	1400 U	2700 UJ	1400 U	1400 U
2-Hexanone	10	1400 U	2700 UJ	1400 U	1400 U
Dibromochloromethane	10	1400 U	2700 UJ	1400 U	1400 U
Chlorobenzene	10	1400 U	2700 UJ	1400 U	1400 U
Ethylbenzene	10	1900	5900 J	5400	5400
Styrene	10	1400 U	2700 UJ	1400 U	1400 U
Bromoform	10	1400 U	2700 UJ	1400 U	1400 U
1,1,2,2-Tetrachloroethane	10	1400 U	2700 UJ	1400 U	1400 U
1,2-Dichloroethene (total)	10	1400 U	250 J	350 J	350 J
Xylene (total)	10	14000	37000 J	34000	34000
Total TIC concentration		213500	393000	148800	
Units (ug/kg) Soil, (ug/L) Water					
Dilution Factor		1	2	1	
Sample Weight/Volume		4.0 (Medium level)	4.0 (Medium level)	4.0 (Medium level)	Composite result
% Moisture		8	9	9	9

Semivolatile Organic Compounds

	CRQL					
Site		8	8	8	8	8
Location			SB9	SB9	SB9	SB10
Sample Depth			8.5-9.4	4.5-5.5	8-SB9-1-3	9-9.9
Sample Number		8-RB2	8-SB9-8.5-9.4	8-SB9-4.5-5.5	8-SB9-1-3	8-SB10-9-9.9
Laboratory Sample ID		9605024-11	9605024-06	9605024-05	9605024-04	9605024-10
Matrix		water	soil	soil	soil	soil
Date Sampled		4/30/96	4/30/96	4/30/96	4/30/96	4/30/96
Date Analyzed		5/16/96	5/15/96	5/15/96	5/15/96	5/16/96
bis(2-Chloroethyl)ether	330	10 U	360 U	370 U	380 U	360 U
Phenol	330	10 U	360 U	370 U	380 U	360 U
2-Chlorophenol	330	10 U	360 U	370 U	380 U	360 U
1,3-Dichlorobenzene	330	10 U	360 U	370 U	380 U	360 U
1,4-Dichlorobenzene	330	10 U	360 U	370 U	380 U	360 U
1,2-Dichlorobenzene	330	10 U	360 U	370 U	380 U	360 U
2,2'-oxybis(1-chloropropane)	330	10 U	360 U	370 U	380 U	360 U
2-Methylphenol	330	10 U	360 U	370 U	380 U	360 U
Hexachloroethane	330	10 U	360 U	370 U	380 U	360 U
N-Nitroso-di-n-propylamine	330	10 U	360 U	370 U	380 U	360 U
4-Methylphenol	330	10 U	360 U	370 U	380 U	360 U
Nitrobenzene	330	10 U	360 U	370 U	380 U	360 U
Isophorone	330	10 U	360 U	370 U	380 U	360 U
2-Nitrophenol	330	10 U	360 U	370 U	380 U	360 U
2,4-Dimethylphenol	330	10 U	360 U	370 U	380 U	360 U
bis(2-Chloroethoxy)methane	330	10 U	360 U	370 U	380 U	360 U
2,4-Dichlorophenol	330	10 U	360 U	370 U	380 U	360 U
1,2,4-Trichlorobenzene	330	10 U	360 U	370 U	380 U	360 U
Naphthalene	330	10 U	360 U	370 U	380 U	360 U
4-Chloroaniline	330	10 U	360 U	370 U	380 U	360 U
Hexachlorobutadiene	330	10 U	360 U	370 U	380 U	360 U
4-Chloro-3-methylphenol	330	10 U	360 U	370 U	380 U	360 U
2-Methylnaphthalene	330	10 U	360 U	370 U	380 U	360 U
Hexachlorocyclopentadiene	330	10 U	360 U	370 U	380 U	360 U
2,4,6-Trichlorophenol	330	10 U	360 U	370 U	380 U	360 U
2,4,5-Trichlorophenol	800	25 U	910 U	920 U	950 U	910 U
2-Chloronaphthalene	330	10 U	360 U	370 U	380 U	360 U
2-Nitroaniline	800	25 U	910 U	920 U	950 U	910 U
Acenaphthylene	330	10 U	360 U	370 U	380 U	360 U
Dimethylphthalate	330	10 U	360 U	370 U	380 U	360 U
2,6-Dinitrotoluene	330	10 U	360 U	370 U	380 U	360 U
Acenaphthene	330	10 U	360 U	370 U	380 U	360 U
3-Nitroaniline	800	25 U	910 U	920 U	950 U	910 U
2,4-Dinitrophenol	800	25 U	910 U	920 U	950 U	910 U
Dibenzofuran	330	10 U	360 U	370 U	380 U	360 U
2,4-Dinitrotoluene	330	10 U	360 U	370 U	380 U	360 U
4-Nitrophenol	800	25 U	910 U	920 U	950 U	910 U
Fluorene	330	10 U	360 U	370 U	380 U	360 U

Semivolatile Organic Compounds						
Site		8	8	8	8	8
Location			SB9	SB9	SB9	SB10
Sample Depth			8.5-9.4	4.5-5.5	8-SB9-1-3	9-9.9
Sample Number		8-RB2	8-SB9-8.5-9.4	8-SB9-4.5-5.5	8-SB9-1-3	8-SB10-9-9.9
Laboratory Sample ID		9605024-11	9605024-06	9605024-05	9605024-04	9605024-10
Matrix		water	soil	soil	soil	soil
Date Sampled		4/30/96	4/30/96	4/30/96	4/30/96	4/30/96
Date Analyzed		5/16/96	5/15/96	5/15/96	5/15/96	5/16/96
	CRQL					
4-Chlorophenyl-phenylether	330	10 U	360 U	370 U	380 U	360 U
Diethylphthalate	330	10 U	360 U	370 U	380 U	360 U
4-Nitroaniline	800	25 U	910 U	920 U	950 U	910 U
4,6-Dinitro-2-methylphenol	800	25 U	910 U	920 U	950 U	910 U
n-Nitrosodiphenylamine	330	10 U	360 U	370 U	380 U	360 U
4-Bromophenyl-phenylether	330	10 U	360 U	370 U	380 U	360 U
Hexachlorobenzene	330	10 U	360 U	370 U	380 U	360 U
Pentachlorophenol	800	25 U	910 U	920 U	950 U	910 U
Phenanthrene	330	10 U	360 U	370 U	380 U	360 U
Anthracene	330	10 U	360 U	370 U	380 U	360 U
Carbazole	330	10 U	360 U	370 U	380 U	360 U
Di-n-butylphthalate	330	10 U	360 U	370 U	380 U	360 U
Fluoranthene	330	10 U	360 U	370 U	380 U	360 U
Pyrene	330	10 U	360 U	370 U	380 U	360 U
Butylbenzylphthalate	330	10 U	360 U	370 U	380 U	360 U
3,3'-Dichlorobenzidine	330	10 U	360 UJ	370 UJ	380 UJ	360 U
Benzo[a]anthracene	330	10 U	360 U	370 U	380 U	360 U
Chrysene	330	10 U	360 U	370 U	380 U	360 U
bis(2-Ethylhexyl)phthalate	330	4 BJ	360 U	190 J	200 J	360 U
Di-n-octylphthalate	330	1 J	360 U	14 J	6 J	360 U
Benzo[b]fluoranthene	330	10 U	360 U	370 U	380 U	360 U
Benzo[k]fluoranthene	330	10 U	360 U	370 U	380 U	360 U
Benzo[a]pyrene	330	10 U	360 U	370 U	380 U	360 U
Indeno[1,2,3-cd]pyrene	330	10 U	360 U	370 U	380 U	360 U
Dibenz[a,h]anthracene	330	10 U	360 U	370 U	380 U	360 U
Benzo[g,h,i]perylene	330	10 U	360 U	370 U	380 U	360 U
Total TIC concentration		14	709	1026	2722	660
Units (ug/kg) Soil, (ug/L) Water	ug/kg					
Dilution Factor		1	1	1	1	1
Sample Weight/Volume		1000 mL	30.0 g	30.0 g	30.0 g	30.0 g
% Moisture			8	9	12	8

Semivolatile Organic Compounds						
Site		8	8	7	7	7
Location		SB10	SB10	SB5	SB5	SB5
Sample Depth		4.5-6.5	1-3.	8-8.6	4.5-5.4	1-3.
Sample Number		8-SB10-4.5-6.5	8-SB10-1-3	7-SB5-8-8.6	7-SB5-4.5-5.4	7-SB5-1-3
Laboratory Sample ID		9605024-09	9605024-08	9604830-03	9604830-02	9604830-01
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/30/96	4/30/96	4/27/96	4/27/96	4/27/96
Date Analyzed		5/16/96	5/16/96	5/10/96	5/10/96	5/24/96
	CRQL					
bis(2-Chloroethyl)ether	330	360 U	370 U	1400 U	1400 U	390 U
Phenol	330	360 U	370 U	1400 U	1400 U	390 U
2-Chlorophenol	330	360 U	370 U	1400 U	1400 U	390 U
1,3-Dichlorobenzene	330	360 U	370 U	1400 U	1400 U	390 U
1,4-Dichlorobenzene	330	360 U	370 U	1400 U	1400 U	390 U
1,2-Dichlorobenzene	330	360 U	370 U	1400 U	1400 U	390 U
2,2'-oxybis(1-chloropropane)	330	360 U	370 U	1400 U	1400 U	390 U
2-Methylphenol	330	360 U	370 U	1400 U	1400 U	390 U
Hexachloroethane	330	360 U	370 U	1400 U	1400 U	390 U
N-Nitroso-di-n-propylamine	330	360 U	370 U	1400 U	1400 U	390 U
4-Methylphenol	330	360 U	370 U	1400 U	1400 U	390 U
Nitrobenzene	330	360 U	370 U	1400 U	1400 U	390 U
Isophorone	330	360 U	370 U	1400 U	1400 U	390 U
2-Nitrophenol	330	360 U	370 U	1400 U	1400 U	390 U
2,4-Dimethylphenol	330	360 U	370 U	1400 U	1400 U	390 U
bis(2-Chloroethoxy)methane	330	360 U	370 U	1400 U	1400 U	390 U
2,4-Dichlorophenol	330	360 U	370 U	1400 U	1400 U	390 U
1,2,4-Trichlorobenzene	330	360 U	370 U	1400 U	1400 U	390 U
Naphthalene	330	360 U	370 U	950 J	3300	7 J,
4-Chloroaniline	330	360 U	370 U	1400 U	1400 U	390 U
Hexachlorobutadiene	330	360 U	370 U	1400 U	1400 U	390 U
4-Chloro-3-methylphenol	330	360 U	370 U	1400 U	1400 U	390 U
2-Methylnaphthalene	330	360 U	370 U	1600	5100	4 J
Hexachlorocyclopentadiene	330	360 U	370 U	1400 U	1400 U	390 U
2,4,6-Trichlorophenol	330	360 U	370 U	1400 U	1400 U	390 U
2,4,5-Trichlorophenol	800	910 U	930 U	3600 U	3600 U	970 U
2-Chloronaphthalene	330	360 U	370 U	1400 U	1400 U	390 U
2-Nitroaniline	800	910 U	930 U	3600 U	3600 U	970 U
Acenaphthylene	330	360 U	370 U	1400 U	1400 U	390 U
Dimethylphthalate	330	360 U	370 U	1400 U	1400 U	390 U
2,6-Dinitrotoluene	330	360 U	370 U	1400 U	1400 U	390 U
Acenaphthene	330	360 U	370 U	1400 U	1400 U	390 U
3-Nitroaniline	800	910 U	930 U	3600 U	3600 U	970 U
2,4-Dinitrophenol	800	910 U	930 U	3600 U	3600 U	970 U
Dibenzofuran	330	360 U	370 U	1400 U	1400 U	390 U
2,4-Dinitrotoluene	330	360 U	370 U	1400 U	1400 U	390 U
4-Nitrophenol	800	910 U	930 U	3600 U	3600 U	970 U
Fluorene	330	360 U	370 U	58 J	39 J	390 U

Semivolatile Organic Compounds						
Site		8	8	7	7	7
Location		SB10	SB10	SB5	SB5	SB5
Sample Depth		4.5-6.5	1-3.	8-8.6	4.5-5.4	1-3.
Sample Number		8-SB10-4.5-6.5	8-SB10-1-3	7-SB5-8-8.6	7-SB5-4.5-5.4	7-SB5-1-3
Laboratory Sample ID		9605024-09	9605024-08	9604830-03	9604830-02	9604830-01
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/30/96	4/30/96	4/27/96	4/27/96	4/27/96
Date Analyzed		5/16/96	5/16/96	5/10/96	5/10/96	5/24/96
	CRQL					
4-Chlorophenyl-phenylether	330	360 U	370 U	1400 U	1400 U	390 U
Diethylphthalate	330	360 U	370 U	1400 U	1400 U	390 U
4-Nitroaniline	800	910 U	930 U	3600 U	3600 U	970 U
4,6-Dinitro-2-methylphenol	800	910 U	930 U	3600 U	3600 U	970 U
n-Nitrosodiphenylamine	330	360 U	370 U	1400 U	1400 U	390 U
4-Bromophenyl-phenylether	330	360 U	370 U	1400 U	1400 U	390 U
Hexachlorobenzene	330	360 U	370 U	1400 U	1400 U	390 U
Pentachlorophenol	800	910 U	930 U	3600 U	3600 U	970 U
Phenanthrene	330	360 U	370 U	93 J	1400 U	390 U
Anthracene	330	360 U	370 U	1400 U	1400 U	390 U
Carbazole	330	360 U	370 U	1400 U	1400 U	390 U
Di-n-butylphthalate	330	360 U	370 U	1400 U	1400 U	390 U
Fluoranthene	330	360 U	370 U	1400 U	1400 U	390 U
Pyrene	330	360 U	370 U	1400 U	1400 U	5 J
Butylbenzylphthalate	330	360 U	370 U	1400 U	1400 U	390 U
3,3'-Dichlorobenzidine	330	360 U	370 U	1400 UJ	1400 UJ	390 UJ
Benzo[a]anthracene	330	360 U	370 U	1400 U	1400 U	390 U
Chrysene	330	360 U	370 U	1400 U	1400 U	390 U
bis(2-Ethylhexyl)phthalate	330	360 U	370 U	1400 U	590 J	390 U
Di-n-octylphthalate	330	5 J	370 U	1400 U	1400 U	390 U
Benzo[b]fluoranthene	330	360 U	370 U	1400 U	1400 U	390 U
Benzo[k]fluoranthene	330	360 U	370 U	1400 U	1400 U	390 U
Benzo[a]pyrene	330	360 U	370 U	1400 U	1400 U	390 U
Indeno[1,2,3-cd]pyrene	330	360 U	370 U	1400 U	1400 U	390 U
Dibenz[a,h]anthracene	330	360 U	370 U	1400 U	1400 U	390 U
Benzo[g,h,i]perylene	330	360 U	370 U	1400 U	1400 U	390 U
Total TIC concentration		893	1006	60840	85400	7412
Units (ug/kg) Soil, (ug/L) Water	ug/kg					
Dilution Factor		1	1	4	4	1
Sample Weight/Volume		30.0 g	30.0 g	30.0 g	30.0 g	30.0 g
% Moisture		8	10	8	8	14

Semivolatile Organic Compounds						
Site		6	6	6	6	6
Location		SB16	SB16	SB16	DW1	DW1
Sample Depth		8.5-9.5	3.9-4.5	0.9-3.9	7.3-7.6	4.1-4.6
Sample Number		6-SB16-8.5-9.5	6-SB16-3.9-4.5	6-SB16-0.9-3.9	6-DW1-7.3-7.6	6-DW1-4.1-4.6
Laboratory Sample ID		9605024-03	9605024-02	9605024-01	9604830-05	9604830-04
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/30/96	4/30/96	4/30/96	4/27/96	4/27/96
Date Analyzed		5/15/96	5/15/96	5/15/96	5/10/96	5/10/96
	CRQL					
bis(2-Chloroethyl)ether	330	360 U	370 U	380 U	1500 U	3700 U
Phenol	330	360 U	370 U	380 U	1500 U	3700 U
2-Chlorophenol	330	360 U	370 U	380 U	1500 U	3700 U
1,3-Dichlorobenzene	330	360 U	370 U	380 U	1500 U	3700 U
1,4-Dichlorobenzene	330	360 U	370 U	380 U	1500 U	3700 U
1,2-Dichlorobenzene	330	360 U	370 U	380 U	1500 U	3700 U
2,2'-oxybis(1-chloropropane)	330	360 U	370 U	380 U	1500 U	3700 U
2-Methylphenol	330	360 U	370 U	380 U	1500 U	3700 U
Hexachloroethane	330	360 U	370 U	380 U	1500 U	3700 U
N-Nitroso-di-n-propylamine	330	360 U	370 U	380 U	1500 U	3700 U
4-Methylphenol	330	360 U	370 U	380 U	1500 U	3700 U
Nitrobenzene	330	360 U	370 U	380 U	1500 U	3700 U
Isophorone	330	360 U	370 U	380 U	1500 U	3700 U
2-Nitrophenol	330	360 U	370 U	380 U	1500 U	3700 U
2,4-Dimethylphenol	330	360 U	370 U	380 U	1500 U	3700 U
bis(2-Chloroethoxy)methane	330	360 U	370 U	380 U	1500 U	3700 U
2,4-Dichlorophenol	330	360 U	370 U	380 U	1500 U	3700 U
1,2,4-Trichlorobenzene	330	360 U	370 U	380 U	1500 U	3700 U
Naphthalene	330	200 J	370 U	380 U	1500	11000
4-Chloroaniline	330	360 U	370 U	380 U	1500 U	3700 U
Hexachlorobutadiene	330	360 U	370 U	380 U	1500 U	3700 U
4-Chloro-3-methylphenol	330	360 U	370 U	380 U	1500 U	3700 U
2-Methylnaphthalene	330	170 J	370 U	380 U	1500	12000
Hexachlorocyclopentadiene	330	360 U	370 U	380 U	1500 U	3700 U
2,4,6-Trichlorophenol	330	360 U	370 U	380 U	1500 U	3700 U
2,4,5-Trichlorophenol	800	900 U	920 U	950 U	3700 U	9200 U
2-Chloronaphthalene	330	360 U	370 U	380 U	1500 U	3700 U
2-Nitroaniline	800	900 U	920 U	950 U	3700 U	9200 U
Acenaphthylene	330	360 U	370 U	380 U	1500 U	3700 U
Dimethylphthalate	330	360 U	370 U	380 U	1500 U	3700 U
2,6-Dinitrotoluene	330	360 U	370 U	380 U	1500 U	3700 U
Acenaphthene	330	360 U	370 U	380 U	1500 U	3700 U
3-Nitroaniline	800	900 U	920 U	950 U	3700 U	9200 U
2,4-Dinitrophenol	800	900 U	920 U	950 U	3700 U	9200 U
Dibenzofuran	330	360 U	370 U	380 U	1500 U	3700 U
2,4-Dinitrotoluene	330	360 U	370 U	380 U	1500 U	3700 U
4-Nitrophenol	800	900 U	920 U	950 U	3700 U	9200 U
Fluorene	330	360 U	370 U	380 U	40 J	3700 U

Semivolatile Organic Compounds	CRQL					
Site		6	6	6	6	6
Location		SB16	SB16	SB16	DW1	DW1
Sample Depth		8.5-9.5	3.9-4.5	0.9-3.9	7.3-7.6	4.1-4.6
Sample Number		6-SB16-8.5-9.5	6-SB16-3.9-4.5	6-SB16-0.9-3.9	6-DW1-7.3-7.6	6-DW1-4.1-4.6
Laboratory Sample ID		9605024-03	9605024-02	9605024-01	9604830-05	9604830-04
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/30/96	4/30/96	4/30/96	4/27/96	4/27/96
Date Analyzed		5/15/96	5/15/96	5/15/96	5/10/96	5/10/96
4-Chlorophenyl-phenylether	330	360 U	370 U	380 U	1500 U	3700 U
Diethylphthalate	330	360 U	370 U	380 U	1500 U	3700 U
4-Nitroaniline	800	900 U	920 U	950 U	3700 U	9200 U
4,6-Dinitro-2-methylphenol	800	900 U	920 U	950 U	3700 U	9200 U
n-Nitrosodiphenylamine	330	360 U	370 U	380 U	1500 U	3700 U
4-Bromophenyl-phenylether	330	360 U	370 U	380 U	1500 U	3700 U
Hexachlorobenzene	330	360 U	370 U	380 U	1500 U	3700 U
Pentachlorophenol	800	900 U	920 U	950 U	3700 U	9200 U
Phenanthrene	330	360 U	370 U	380 U	1500 U	3700 U
Anthracene	330	360 U	370 U	380 U	1500 U	3700 U
Carbazole	330	360 U	370 U	380 U	1500 U	3700 U
Di-n-butylphthalate	330	360 U	370 U	380 U	120 J	220 J
Fluoranthene	330	360 U	370 U	380 U	1500 U	3700 U
Pyrene	330	360 U	370 U	380 U	1500 U	3700 U
Butylbenzylphthalate	330	360 U	370 U	380 U	1500 U	3700 U
3,3'-Dichlorobenzidine	330	360 UJ	370 UJ	380 UJ	1500 UJ	3700 UJ
Benzo[a]anthracene	330	360 U	370 U	380 U	1500 U	3700 U
Chrysene	330	360 U	370 U	380 U	1500 U	3700 U
bis(2-Ethylhexyl)phthalate	330	190 J	560 J	280 J	190 J	2900 J
Di-n-octylphthalate	330	360 U	50 J	19 J	1500 U	3700 U
Benzo[b]fluoranthene	330	360 U	370 U	380 U	1500 U	3700 U
Benzo[k]fluoranthene	330	360 U	370 U	380 U	1500 U	3700 U
Benzo[a]pyrene	330	360 U	370 U	380 U	1500 U	3700 U
Indeno[1,2,3-cd]pyrene	330	360 U	370 U	380 U	1500 U	3700 U
Dibenz[a,h]anthracene	330	360 U	370 U	380 U	1500 U	3700 U
Benzo[g,h,i]perylene	330	360 U	370 U	380 U	1500 U	3700 U
Total TIC concentration		59210	1641	3481	143500	314300
Units (ug/kg) Soil, (ug/L) Water	ug/kg					
Dilution Factor		1	1	1	4	10
Sample Weight/Volume		30.0 g	30.0 g	30.0 g	30.0 g	30.0 g
% Moisture		7	9	12	9	9

JP4, Gas, Diesel, Oil					
Site		8	8	8	8
Location			SB9	SB9	SB9
Sample Depth			8.5-9.4	4.5-5.5	8-SB9-1-3
Sample Number		8-RB2	8-SB9-8.5-9.4	8-SB9-4.5-5.5	8-SB9-1-3
Laboratory Sample ID		9605024-11	9605024-06	9605024-05	9605024-04
Matrix		water	soil	soil	soil
Date Sampled		4/30/96	4/30/96	4/30/96	4/30/96
Date Analyzed		5/6-10/96	5/9-17/96	5/9-17/96	5/9-17/96
	* RL				
JP-4	10	0.25 U	11 U	11 U	11 U
Diesel range, as diesel	10	0.25 U	11 U	11 U	11 U
Oil range, as oil	100	1 U	110 U	110 U	110 U
Gasoline range	5	0.25 U	5.4 U	5.5 U	5.7 U
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture			8	9	12
* RL - Reporting Limit					

JP4, Gas, Diesel, Oil					
Site		8	8	8	7
Location		SB10	SB10	SB10	SB5
Sample Depth		9-9.9	4.5-6.5	1-3.	8-8.6
Sample Number		8-SB10-9-9.9	8-SB10-4.5-6.5	8-SB10-1-3	7-SB5-8-8.6
Laboratory Sample ID		9605024-10	9605024-09	9605024-08	9604830-03
Matrix		soil	soil	soil	soil
Date Sampled		4/30/96	4/30/96	4/30/96	4/27/96
Date Analyzed		5/10-17/96	5/10-17/96	5/10-17/96	5/10-18/96
	* RL				
JP-4	10	11 U	12 U	11 U	530
Diesel range, as diesel	10	11 U	12 U	11 U	510
Oil range, as oil	100	110 U	120 U	110 U	3800
Gasoline range	5	5.4 U	6.1 U	5.6 U	760 NJ
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		8	18	10	8
* RL - Reporting Limit					

JP4, Gas, Diesel, Oil					
Site		7	7	6	6
Location		SB5	SB5	SB16	SB16
Sample Depth		4.5-5.4	1-3.	8.5-9.5	3.9-4.5
Sample Number		7-SB5-4.5-5.4	7-SB5-1-3	6-SB16-8.5-9.5	6-SB16-3.9-4.5
Laboratory Sample ID		9604830-02	9604830-01	9605024-03	9605024-02
Matrix		soil	soil	soil	soil
Date Sampled		4/27/96	4/27/96	4/30/96	4/30/96
Date Analyzed		5/10-18/96	5/9-17/96	5/10-18/96	5/9-17/96
	* RL				
JP-4	10	760	12 U	270	11 U
Diesel range, as diesel	10	790	12 U	130	17
Oil range, as oil	100	7800	120 U	300	110 U
Gasoline range	5	1200 NJ	5.8 U	460 NJ	5.5 U
Units (mg/kg) Soil, (mg/L) Water	mg/kg				
% Moisture		8	14	7	9

* RL - Reporting Limit

JP4, Gas, Diesel, Oil

Site		6	6	6
Location		SB16	DW1	DW1
Sample Depth		0.9-3.9	7.3-7.6	4.1-4.6
Sample Number		6-SB16-0.9-3.9	6-DW1-7.3-7.6	6-DW1-4.1-4.6
Laboratory Sample ID		9605024-01	9604830-05	9604830-04
Matrix		soil	soil	soil
Date Sampled		4/30/96	4/27/96	4/27/96
Date Analyzed		5/9-17/96	5/10-20/96	5/10-20/96
	* RL			
JP-4	10	11 U	1300	5700
Diesel range, as diesel	10	11 U	400	1900
Oil range, as oil	100	110 U	540	10000
Gasoline range	5	5.7 U	1700 NJ	7300 NJ
Units (mg/kg) Soil, (mg/L) Water	mg/kg			
% Moisture		12	8	9

* RL - Reporting Limit

Volatile Organic Compounds						
Site		7	7	7	6	6
Location		MW5	MW4	MW2	MW3	MW3
Sample Depth		20.5	20.5	20.5	20.5	20.5
Sample Number		7-MW5-20.5	7-MW4-20.5	7-MW2-20.5	6-MW3-20.5RE	6-MW3-20.5
Laboratory Sample ID		9605104-05	9605104-04	9605104-03	9605104-02RE	9605104-02
Matrix		soil	soil	soil	soil	soil
Date Sampled		4/29/96	4/28/96	4/28/96	4/29/96	4/29/96
Date Analyzed		5/6/96	5/6/96	5/6/96	5/9/96	5/6/96
	CRQL					
Chloromethane	10	11 U	11 U	11 U	54 U	11 UJ
Vinyl Chloride	10	11 U	11 U	11 U	54 U	11 UJ
Bromomethane	10	11 U	11 U	11 U	54 U	11 UJ
Chloroethane	10	11 U	11 U	11 U	54 U	11 UJ
1,1-Dichloroethene	10	11 U	11 U	11 U	54 U	11 UJ
Acetone	10	23	73	19	290 J	20 J
Carbon Disulfide	10	11 U	11 U	11 U	54 U	11 UJ
Methylene Chloride	10	11 U	11 U	11 U	28 J	11 UJ
1,1-Dichloroethane	10	11 U	11 U	11 U	54 U	11 UJ
2-Butanone	10	2 J	53	2 J	53 J	11 UJ
Chloroform	10	11 U	11 U	11 U	54 U	11 UJ
1,1,1-Trichloroethane	10	11 U	11 U	11 U	54 U	11 UJ
Carbon Tetrachloride	10	11 U	11 U	11 U	54 U	11 UJ
Benzene	10	11 U	11 U	11 U	54 U	11 UJ
1,2-Dichloroethane	10	11 U	11 U	11 U	54 U	11 UJ
Trichloroethene	10	11 U	11 U	11 U	54 U	11 UJ
1,2-Dichloropropane	10	11 U	11 U	11 U	54 U	11 UJ
Bromodichloromethane	10	11 U	11 U	11 U	54 U	11 UJ
cis-1,3-Dichloropropene	10	11 U	11 U	11 U	54 U	11 UJ
4-Methyl-2-Pentanone	10	11 U	11 U	11 U	54 U	11 UJ
Toluene	10	11 U	1 J	1 J	2 J	11 UJ
trans-1,3-Dichloropropene	10	11 U	11 U	11 U	54 U	11 UJ
1,1,2-Trichloroethane	10	11 U	11 U	11 U	54 U	11 UJ
Tetrachloroethene	10	11 U	11 U	11 U	54 U	11 UJ
2-Hexanone	10	11 U	15	11 U	54 U	11 UJ
Dibromochloromethane	10	11 U	11 U	11 U	54 U	11 UJ
Chlorobenzene	10	11 U	11 U	11 U	54 U	11 UJ
Ethylbenzene	10	11 U	11 U	11 U	54 U	11 UJ
Styrene	10	11 U	11 U	11 U	54 U	11 UJ
Bromoform	10	11 U	11 U	11 U	54 U	11 UJ
1,1,2,2-Tetrachloroethane	10	11 U	11 U	11 U	54 U	11 UJ
1,2-Dichloroethene (total)	10	11 U	11 U	11 U	54 U	11 UJ
Xylene (total)	10	1 J	11 U	1 J	3 J	1 J
Total TIC concentration		57	86	0	74	148
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		1	1	1	1	1
Sample Weight/Volume		5.0 g	5.0 g	5.0 g	1.0 g	5.0 g
% Moisture		12	7	12	7	7

Volatile Organic Compounds			
Site		6	6
Location		MW3	MW2
Sample Depth		20.5	20
Sample Number		6-MW3-20.5	6-MW2-20
Laboratory Sample ID		9605104-02	9605104-01
Matrix		soil	soil
Date Sampled		4/29/96	4/29/96
Date Analyzed		Composite result	5/6/96
	CRQL		
Chloromethane	10	11 UJ	10 U
Vinyl Chloride	10	11 UJ	10 U
Bromomethane	10	11 UJ	10 U
Chloroethane	10	11 UJ	10 U
1,1-Dichloroethene	10	11 UJ	10 U
Acetone	10	20 J	11 J
Carbon Disulfide	10	11 UJ	10 U
Methylene Chloride	10	11 UJ	10 U
1,1-Dichloroethane	10	11 UJ	10 U
2-Butanone	10	11 UJ	2 J
Chloroform	10	11 UJ	10 U
1,1,1-Trichloroethane	10	11 UJ	10 U
Carbon Tetrachloride	10	11 UJ	10 U
Benzene	10	11 UJ	10 U
1,2-Dichloroethane	10	11 UJ	10 U
Trichloroethene	10	11 UJ	10 U
1,2-Dichloropropane	10	11 UJ	10 U
Bromodichloromethane	10	11 UJ	10 U
cis-1,3-Dichloropropene	10	11 UJ	10 U
4-Methyl-2-Pentanone	10	11 UJ	10 U
Toluene	10	11 UJ	10 U
trans-1,3-Dichloropropene	10	11 UJ	10 U
1,1,2-Trichloroethane	10	11 UJ	10 U
Tetrachloroethene	10	11 UJ	10 U
2-Hexanone	10	11 UJ	10 U
Dibromochloromethane	10	11 UJ	10 U
Chlorobenzene	10	11 UJ	10 U
Ethylbenzene	10	11 UJ	10 U
Styrene	10	11 UJ	10 U
Bromoform	10	11 UJ	10 U
1,1,2,2-Tetrachloroethane	10	11 UJ	10 U
1,2-Dichloroethene (total)	10	11 UJ	10 U
Xylene (total)	10	1 J	10 U
Total TIC concentration			0
Units (ug/kg) Soil, (ug/L) Water			
Dilution Factor			1
Sample Weight/Volume		Composite result	5.0 g
% Moisture		7	1

Low Level Volatile Organic Compounds					
Site					
Location					
Sample Depth					
Sample Number		MANG-FB2-PWDL	MANG-FB2-PW	MANG-FB1-DI	FB-TB1
Laboratory Sample ID		9605075-02DL	9605075-02	9605075-01	9605075-03
Matrix		water	water	water	water
Date Sampled		5/1/96	5/1/96	5/1/96	5/1/96
Date Analyzed		5/9/96	5/8/96	5/8/96	5/8/96
	CRQL				
Chloromethane	1	2 U	1 U	0.06 J	1 U
Vinyl chloride	1	2 U	1 U	1 U	1 U
Bromomethane	1	2 U	1 U	1 U	1 U
Chloroethane	1	2 U	1 U	1 U	1 U
1,1-Dichloroethene	1	2 U	1 U	1 U	1 U
Acetone	5	10 U	5 U	5 U	5 U
Carbon disulfide	1	2 U	1 U	1 U	1 U
Methylene chloride	2	4 U	0.1 J	0.05 J	0.14 J
trans-1,2-Dichloroethene	1	2 U	1 U	1 U	1 U
1,1-Dichloroethane	1	2 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1	2 U	1 U	1 U	1 U
2-Butanone	5	10 U	5 U	5 U	5 U
Bromochloromethane	1	2 U	1 U	1 U	1 U
Chloroform	1	34 D	32 E	0.15 J	1 U
1,2-Dichloroethane	1	2 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1	2 U	1 U	1 U	1 U
Carbon tetrachloride	1	2 U	1 U	1 U	1 U
Benzene	1	2 U	1 U	1 U	1 U
Trichloroethene	1	2 U	1 U	1 U	1 U
1,2-Dichloropropane	1	2 U	1 U	1 U	1 U
Bromodichloromethane	1	11 D	11	1 U	1 U
cis-1,3-Dichloropropene	1	2 U	1 U	1 U	1 U
4-Methyl-2-pentanone	5	10 U	5 U	5 U	5 U
Toluene	1	0.04 JD	0.04 J	0.21 J	0.03 J
trans-1,3-Dichloropropene	1	2 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	2 U	1 U	1 U	1 U
Tetrachloroethene	1	2 U	1 U	1 U	1 U
2-Hexanone	5	10 U	5 U	5 U	5 U
Dibromochloromethane	1	1.4 JD	1.5	1 U	1 U
1,2-Dibromoethane	1	2 U	1 U	1 U	1 U
Chlorobenzene	1	2 U	1 U	1 U	1 U
Ethylbenzene	1	2 U	1 U	0.1 J	1 U
Styrene	1	2 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1	2 U	1 U	1 U	1 U

Low Level Volatile Organic Compounds	CRQL				
Site					
Location					
Sample Depth					
Sample Number		MANG-FB2-PWDL	MANG-FB2-PW	MANG-FB1-DI	FB-TB1
Laboratory Sample ID		9605075-02DL	9605075-02	9605075-01	9605075-03
Matrix		water	water	water	water
Date Sampled		5/1/96	5/1/96	5/1/96	5/1/96
Date Analyzed		5/9/96	5/8/96	5/8/96	5/8/96
Bromoform	1	2 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1	2 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1	2 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1	2 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1	2 U	1 U	1 U	1 U
Xylene (total)	1	0.18 JD	0.26 J	0.39 J	1 U
Total TIC concentration		0	0	0	0
Units (ug/kg) Soil, (ug/L) Water					
Dilution Factor		2	1	1	1
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL	25.0 mL

Low Level Volatile Organic Compounds					
Site		7	7	6	6 & 7
Location			MW3	MW1	
Sample Depth					
Sample Number		7-TB-A	7-MW3-GW1	6-MW1-GW1	6,7-TB1
Laboratory Sample ID		9605104-06	9605172-01	9605172-02	9605172-03
Matrix		water	water	water	water
Date Sampled		5/3/96	5/6/96	5/6/96	5/6/96
Date Analyzed		5/6/96	5/8/96	5/8/96	5/8/96
	CRQL				
Chloromethane	1	1 U	1 U	1 U	1 U
Vinyl chloride	1	1 U	1 U	1 U	1 U
Bromomethane	1	1 U	1 U	1 U	1 U
Chloroethane	1	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1	1 U	1 U	1 U	1 U
Acetone	5	5 U	R	R	5 U
Carbon disulfide	1	1 U	1 U	1 U	1 U
Methylene chloride	2	0.36 BJ	2 U	2 U	0.24 J
trans-1,2-Dichloroethene	1	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1	1 U	1 U	0.31 J	1 U
cis-1,2-Dichloroethene	1	1 U	0.31 J	7.4	1 U
2-Butanone	5	5 U	R	R	5 U
Bromochloromethane	1	1 U	1 U	1 U	1 U
Chloroform	1	1 U	0.05 J	1 U	1 U
1,2-Dichloroethane	1	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1	1 U	1 U	1 U	1 U
Carbon tetrachloride	1	1 U	1 U	1 U	1 U
Benzene	1	1 U	1 U	1 U	1 U
Trichloroethene	1	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1	1 U	1 U	1 U	1 U
Bromodichloromethane	1	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	5	5 U	5 U	5 U	5 U
Toluene	1	0.03 J	1 U	1 U	0.06 J
trans-1,3-Dichloropropene	1	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	1 U	1 U	1 U	1 U
Tetrachloroethene	1	1 U	1 U	1 U	1 U
2-Hexanone	5	5 U	5 U	5 U	5 U
Dibromochloromethane	1	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1	1 U	1 U	1 U	1 U
Chlorobenzene	1	1 U	1 U	1 U	1 U
Ethylbenzene	1	1 U	1 U	1 U	1 U
Styrene	1	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1	1 U	1 U	1 U	1 U

Low Level Volatile Organic Compounds					
Site		7	7	6	6 & 7
Location			MW3	MW1	
Sample Depth					
Sample Number		7-TB-A	7-MW3-GW1	6-MW1-GW1	6,7-TB1
Laboratory Sample ID		9605104-06	9605172-01	9605172-02	9605172-03
Matrix		water	water	water	water
Date Sampled		5/3/96	5/6/96	5/6/96	5/6/96
Date Analyzed		5/6/96	5/8/96	5/8/96	5/8/96
	CRQL				
Bromoform	1	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1	1 U	R	R	1 U
Xylene (total)	1	1 U	1 U	1 U	1 U
Total TIC concentration		0	0	0	0
Units (ug/kg) Soil, (ug/L) Water					
Dilution Factor		1	1	1	1
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL	25.0 mL

Low Level Volatile Organic Compounds		
Site		1
Location		MW2
Sample Depth		
Sample Number		1-MW2-GW1
Laboratory Sample ID		9605104-07
Matrix		water
Date Sampled		5/2/96
Date Analyzed		5/6/96
	CRQL	
Chloromethane	1	1 U
Vinyl chloride	1	1 U
Bromomethane	1	1 U
Chloroethane	1	1 U
1,1-Dichloroethene	1	1 U
Acetone	5	R
Carbon disulfide	1	1 U
Methylene chloride	2	2 U
trans-1,2-Dichloroethene	1	1 U
1,1-Dichloroethane	1	1 U
cis-1,2-Dichloroethene	1	1 U
2-Butanone	5	R
Bromochloromethane	1	1 U
Chloroform	1	1 U
1,2-Dichloroethane	1	1 U
1,1,1-Trichloroethane	1	1 U
Carbon tetrachloride	1	1 U
Benzene	1	1 U
Trichloroethene	1	1 U
1,2-Dichloropropane	1	1 U
Bromodichloromethane	1	1 U
cis-1,3-Dichloropropene	1	1 U
4-Methyl-2-pentanone	5	5 U
Toluene	1	1 U
trans-1,3-Dichloropropene	1	1 U
1,1,2-Trichloroethane	1	1 U
Tetrachloroethene	1	1 U
2-Hexanone	5	5 U
Dibromochloromethane	1	1 U
1,2-Dibromoethane	1	1 U
Chlorobenzene	1	1 U
Ethylbenzene	1	1 U
Styrene	1	1 U
1,1,2,2-Tetrachloroethane	1	1 U

Low Level Volatile Organic Compounds	CRQL	
Site		1
Location		MW2
Sample Depth		
Sample Number		1-MW2-GW1
Laboratory Sample ID		9605104-07
Matrix		water
Date Sampled		5/2/96
Date Analyzed		5/6/96
Bromoform	1	1 U
1,3-Dichlorobenzene	1	1 U
1,4-Dichlorobenzene	1	1 U
1,2-Dichlorobenzene	1	1 U
1,2-Dibromo-3-chloropropane	1	R
Xylene (total)	1	1 U
Total TIC concentration		0
Units (ug/kg) Soil, (ug/L) Water		
Dilution Factor		1
Sample Weight/Volume		25.0 mL

Semivolatile Organic Compounds			
Site			
Location			
Sample Depth			
Sample Number		MANG-FB2-PW	MANG-FB1-DI
Laboratory Sample ID		9605075-02	9605075-01
Matrix		water	water
Date Sampled		5/1/96	5/1/96
Date Analyzed		5/16/96	5/16/96
	CRQL		
bis(2-Chloroethyl)ether	10	10 U	10 U
Phenol	10	10 U	10 U
2-Chlorophenol	10	10 U	10 U
1,3-Dichlorobenzene	10	10 U	10 U
1,4-Dichlorobenzene	10	10 U	10 U
1,2-Dichlorobenzene	10	10 U	10 U
2,2'-oxybis(1-chloropropane)	10	10 U	10 U
2-Methylphenol	10	10 U	10 U
Hexachloroethane	10	10 U	10 U
N-Nitroso-di-n-propylamine	10	10 U	10 U
4-Methylphenol	10	10 U	10 U
Nitrobenzene	10	10 U	10 U
Isophorone	10	10 U	10 U
2-Nitrophenol	10	10 U	10 U
2,4-Dimethylphenol	10	10 U	10 U
bis(2-Chloroethoxy)methane	10	10 U	10 U
2,4-Dichlorophenol	10	10 U	10 U
1,2,4-Trichlorobenzene	10	10 U	10 U
Naphthalene	10	10 U	10 U
4-Chloroaniline	10	10 U	10 U
Hexachlorobutadiene	10	10 U	10 U
4-Chloro-3-methylphenol	10	10 U	10 U
2-Methylnaphthalene	10	10 U	10 U
Hexachlorocyclopentadiene	10	10 U	10 U
2,4,6-Trichlorophenol	10	10 U	10 U
2,4,5-Trichlorophenol	25	25 U	25 U
2-Chloronaphthalene	10	10 U	10 U
2-Nitroaniline	25	25 U	25 U
Acenaphthylene	10	10 U	10 U
Dimethylphthalate	10	10 U	10 U
2,6-Dinitrotoluene	10	10 U	10 U
Acenaphthene	10	10 U	10 U
3-Nitroaniline	25	25 U	25 U
2,4-Dinitrophenol	25	25 U	25 U
Dibenzofuran	10	10 U	10 U
2,4-Dinitrotoluene	10	10 U	10 U
4-Nitrophenol	25	25 U	25 U
Fluorene	10	10 U	10 U

Semivolatile Organic Compounds			
Site			
Location			
Sample Depth			
Sample Number		MANG-FB2-PW	MANG-FB1-DI
Laboratory Sample ID		9605075-02	9605075-01
Matrix		water	water
Date Sampled		5/1/96	5/1/96
Date Analyzed		5/16/96	5/16/96
	CRQL		
4-Chlorophenyl-phenylether	10	10 U	10 U
Diethylphthalate	10	10 U	10 U
4-Nitroaniline	25	25 U	25 U
4,6-Dinitro-2-methylphenol	25	25 U	25 U
n-Nitrosodiphenylamine	10	10 U	10 U
4-Bromophenyl-phenylether	10	10 U	10 U
Hexachlorobenzene	10	10 U	10 U
Pentachlorophenol	25	25 U	25 U
Phenanthrene	10	10 U	10 U
Anthracene	10	10 U	10 U
Carbazole	10	10 U	10 U
Di-n-butylphthalate	10	1 BJ	10 U
Fluoranthene	10	10 U	10 U
Pyrene	10	10 U	10 U
Butylbenzylphthalate	10	10 U	10 U
3,3'-Dichlorobenzidine	10	10 U	10 U
Benzo[a]anthracene	10	10 U	10 U
Chrysene	10	10 U	10 U
bis(2-Ethylhexyl)phthalate	10	1 BJ	1 BJ
Di-n-octylphthalate	10	10 U	10 U
Benzo[b]fluoranthene	10	10 U	10 U
Benzo[k]fluoranthene	10	10 U	10 U
Benzo[a]pyrene	10	10 U	10 U
Indeno[1,2,3-cd]pyrene	10	10 U	10 U
Dibenz[a,h]anthracene	10	10 U	10 U
Benzo[g,h,i]perylene	10	10 U	10 U
Total TIC concentration		19	8
Units (ug/kg) Soil, (ug/L) Water	ug/L		
Dilution Factor		1	1
Sample Weight/Volume		1000 mL	1000 mL

Inorganics			
Site			
Location			
Sample Depth			
Sample Number		MANG-FB2-PW	MANG-FB1-DI
Laboratory Sample ID		9605075-02	9605075-01
Matrix		water	water
Date Sampled		5/1/96	5/1/96
Date Analyzed		5/16-24/96	5/16-24/96
	CRDL		
Antimony	* 6	5 U	5 U
Arsenic	10	1.8 BW	1 U
Barium	200	57.8 B	4.4 B
Beryllium	* 4	0.3 U	0.3 U
Cadmium	5	2 U	2 U
Chromium	10	7 B	6 U
Copper	25	8.7 B	4 B
Lead	3	1.3 B	1 U
Mercury	0.2	0.2 U	0.2 U
Nickel	40	5 U	5 U
Selenium	5	1 UW	1 U
Silver	10	3 U	3 U
Thallium	* 2	2 UW	2 U
Zinc	20	288	11.5 B
Units (mg/kg) Soil, (ug/L) Water	ug/L		
% Solids		0	0
* Project-specific CRDL			

Low Level Volatile Organic Compounds					
Site				7	7
Location				MW5	MW4
Sample Depth					
Sample Number		TB-C	TB-B	7-MW5-GW1	7-MW4-GW1
Laboratory Sample ID		9605398-05	9605398-10	9605398-03	9605398-01
Matrix		water	water	water	water
Date Sampled		5/13/96	5/14/96	5/13/96	5/13/96
Date Analyzed		5/15/96	5/15/96	5/15/96	5/15/96
	CRQL				
Chloromethane	1	1 U	1 U	1 U	1 U
Vinyl chloride	1	1 U	1 U	1 U	1 U
Bromomethane	1	1 U	1 U	1 U	1 U
Chloroethane	1	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1	1 U	1 U	1 U	1 U
Acetone	1	1 U	1 U	1.4 J	1.7 J
Carbon disulfide	1	1 U	1 U	1 U	1 U
Methylene chloride	2	0.16 BJ	0.94 BJ	2 U	2 U
trans-1,2-Dichloroethene	1	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1	1 U	1 U	1 U	1.2
2-Butanone	5	5 U	5 U	R	0.68 J
Bromochloromethane	1	1 U	1 U	1 U	1 U
Chloroform	1	1 U	1 U	0.21 J	1 U
1,2-Dichloroethane	1	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1	1 U	1 U	1 U	1 U
Carbon tetrachloride	1	1 U	1 U	1 U	1 U
Benzene	1	1 U	0.03 J	1 U	0.39 J
Trichloroethene	1	1 U	1 U	1 U	0.18 J
1,2-Dichloropropane	1	1 U	1 U	1 U	1 U
Bromodichloromethane	1	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	5	5 U	5 U	0.32 J	5 U
Toluene	1	0.01 J	0.06 J	1 U	1 U
trans-1,3-Dichloropropene	1	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	1 U	1 U	1 U	1 U
Tetrachloroethene	1	1 U	1 U	1 U	1 U
2-Hexanone	5	5 U	5 U	5 U	5 U
Dibromochloromethane	1	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1	1 U	1 U	1 U	1 U
Chlorobenzene	1	1 U	1 U	1 U	1 U
Ethylbenzene	1	1 U	1 U	1 U	1 U
Styrene	1	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1	1 U	1 U	1 U	1 U

Low Level Volatile Organic Compounds	CRQL				
Site				7	7
Location				MW5	MW4
Sample Depth					
Sample Number		TB-C	TB-B	7-MW5-GW1	7-MW4-GW1
Laboratory Sample ID		9605398-05	9605398-10	9605398-03	9605398-01
Matrix		water	water	water	water
Date Sampled		5/13/96	5/14/96	5/13/96	5/13/96
Date Analyzed		5/15/96	5/15/96	5/15/96	5/15/96
Bromoform	1	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1	1 U	1 U	1 U	1 U
Xylene (total)	1	1 U	1 U	R	R
Total TIC concentration	ug/L	1 U	1 U	1 U	0.23 J
		0	0	7	95
Units (ug/kg) Soil, (ug/L) Water					
Dilution Factor		1	1	1	1
Sample Volume		25.0 mL	25.0 mL	25.0 mL	25.0 mL

JP4, Gas, Diesel, Oil	* RL		
Site			
Location			
Sample Depth			
Sample Number		MANG-FB2-PW	MANG-FB1-DI
Laboratory Sample ID		9605075-02	9605075-01
Matrix		water	water
Date Sampled		5/1/96	5/1/96
Date Analyzed		5/6-17/96	5/6-17/96
Diesel range, as diesel	0.25	0.25 U	0.25 U
Gasoline range	0.25	0.25 U	0.25 U
JP-4	0.25	0.25 U	0.25 U
Oil range, as oil	1	1 U	1 U
Units (mg/kg) Soil, (mg/L) Water			
% Moisture		100	100

* RL - Reporting Limit

Low Level Volatile Organic Compounds	CRQL		
Site		7	6
Location		MW2	MW2
Sample Depth			
Sample Number		7-MW2-GW1	6-MW2-GW1
Laboratory Sample ID		9605398-06	9605398-08
Matrix		water	water
Date Sampled		5/12/96	5/13/96
Date Analyzed		5/15/96	5/15/96
Chloromethane	1	1 U	1 U
Vinyl chloride	1	1 U	1 U
Bromomethane	1	1 U	1 U
Chloroethane	1	1 U	1 U
1,1-Dichloroethene	1	1 U	1 U
Acetone	1	1.8 J	5 J
Carbon disulfide	1	1 U	1 U
Methylene chloride	2	2 U	2 U
trans-1,2-Dichloroethene	1	1 U	1 U
1,1-Dichloroethane	1	1 U	0.28 J
cis-1,2-Dichloroethene	1	1 U	1 U
2-Butanone	5	0.79 J	1.1 J
Bromochloromethane	1	1 U	1 U
Chloroform	1	1 U	1 U
1,2-Dichloroethane	1	1 U	1 U
1,1,1-Trichloroethane	1	1 U	1 U
Carbon tetrachloride	1	1 U	1 U
Benzene	1	5.5	1 U
Trichloroethene	1	1 U	0.52 J
1,2-Dichloropropane	1	1 U	1 U
Bromodichloromethane	1	1 U	1 U
cis-1,3-Dichloropropene	1	1 U	1 U
4-Methyl-2-pentanone	5	0.47 J	2.5 J
Toluene	1	1 U	1 U
trans-1,3-Dichloropropene	1	1 U	1 U
1,1,2-Trichloroethane	1	1 U	1 U
Tetrachloroethene	1	1 U	1 U
2-Hexanone	5	5 U	5 U
Dibromochloromethane	1	1 U	1 U
1,2-Dibromoethane	1	1 U	1 U
Chlorobenzene	1	1 U	1 U
Ethylbenzene	1	23	1 U
Styrene	1	1 U	1 U
1,1,2,2-Tetrachloroethane	1	1 U	1 U

Low Level Volatile Organic Compounds			
Site		7	6
Location		MW2	MW2
Sample Depth			
Sample Number		7-MW2-GW1	6-MW2-GW1
Laboratory Sample ID		9605398-06	9605398-08
Matrix		water	water
Date Sampled		5/12/96	5/13/96
Date Analyzed		5/15/96	5/15/96
	CRQL		
Bromoform	1	1 U	1 U
1,3-Dichlorobenzene	1	1 U	1 U
1,4-Dichlorobenzene	1	1 U	1 U
1,2-Dichlorobenzene	1	1 U	1 U
1,2-Dibromo-3-chloropropane	1	R	R
Xylene (total)	1	8.6	0.51 J
Total TIC concentration	ug/L	72	73
Units (ug/kg) Soil, (ug/L) Water			
Dilution Factor		1	1
Sample Volume		25.0 mL	25.0 mL

Semivolatile Organic Compounds					
Site		7	7	7	6
Location		MW5	MW4	MW2	MW2
Sample Depth					
Sample Number		7-MW5-GW1	7-MW4-GW1	7-MW2-GW1	6-MW2-GW1
Laboratory Sample ID		9605398-03	9605398-01	9605398-06	9605398-08
Matrix		water	water	water	water
Date Sampled		5/13/96	5/13/96	5/12/96	5/13/96
Date Analyzed		5/23/96	5/23/96	5/23/96	5/23/96
	CRQL				
bis(2-Chloroethyl)ether	10	10 U	10 U	10 U	10 U
Phenol	10	10 U	10 U	10 U	10 U
2-Chlorophenol	10	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10	10 U	10 U	10 U	10 U
2,2'-oxybis(1-chloropropane)	10	10 U	10 U	10 U	10 U
2-Methylphenol	10	10 U	10 U	10 U	10 U
Hexachloroethane	10	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10	10 U	10 U	10 U	10 U
4-Methylphenol	10	10 U	10 U	10 U	10 U
Nitrobenzene	10	10 U	10 U	10 U	10 U
Isophorone	10	10 U	10 U	10 U	10 U
2-Nitrophenol	10	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10	10 U	10 U	10 U	10 U
Naphthalene	10	10 U	10 U	10 U	10 U
4-Chloroaniline	10	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10	10 U	1 J	10 U	10 U
Hexachlorocyclopentadiene	10	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25	25 U	25 U	25 U	25 U
2-Chloronaphthalene	10	10 U	10 U	10 U	10 U
2-Nitroaniline	25	25 U	25 U	25 U	25 U
Acenaphthylene	10	10 U	10 U	10 U	10 U
Dimethylphthalate	10	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10	10 U	10 U	10 U	10 U
Acenaphthene	10	10 U	1 J	10 U	10 U
3-Nitroaniline	25	25 U	25 U	25 U	25 U
2,4-Dinitrophenol	25	25 U	25 U	25 U	25 U
Dibenzofuran	10	10 U	1 J	10 U	10 U
2,4-Dinitrotoluene	10	10 U	10 U	10 U	10 U
4-Nitrophenol	25	25 U	25 U	25 U	25 U
Fluorene	10	10 U	1 J	10 U	10 U

Semivolatile Organic Compounds					
Site		7	7	7	6
Location		MW5	MW4	MW2	MW2
Sample Depth					
Sample Number		7-MW5-GW1	7-MW4-GW1	7-MW2-GW1	6-MW2-GW1
Laboratory Sample ID		9605398-03	9605398-01	9605398-06	9605398-08
Matrix		water	water	water	water
Date Sampled		5/13/96	5/13/96	5/12/96	5/13/96
Date Analyzed		5/23/96	5/23/96	5/23/96	5/23/96
	CRQL				
4-Chlorophenyl-phenylether	10	10 U	10 U	10 U	10 U
Diethylphthalate	10	1 J	1 J	10 U	1 J
4-Nitroaniline	25	25 U	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25	25 U	25 U	25 U	25 U
n-Nitrosodiphenylamine	10	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	10	10 U	10 U	10 U	10 U
Hexachlorobenzene	10	10 U	10 U	10 U	10 U
Pentachlorophenol	25	25 U	25 U	25 U	25 U
Phenanthrene	10	10 U	10 U	10 U	10 U
Anthracene	10	10 U	10 U	10 U	10 U
Carbazole	10	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10	10 U	10 U	10 U	10 U
Fluoranthene	10	10 U	10 U	10 U	10 U
Pyrene	10	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10	10 UJ	10 UJ	10 UJ	10 UJ
Benzo[a]anthracene	10	10 U	10 U	10 U	10 U
Chrysene	10	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	10	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	10	10 U	10 U	10 U	10 U
Benzo[a]pyrene	10	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	10	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	10	10 U	10 U	10 U	10 U
Benzo[g,h,i]perylene	10	10 U	10 U	10 U	10 U
Total TIC concentration	ug/L	394	249	43	1023
Units (ug/kg) Soil, (ug/L) Water					
Dilution Factor		1	1	1	1
Sample Volume		1000 mL	1000 mL	1000 mL	1000 mL

Inorganics					
Site		7	7	7	7
Location		MW5	MW5	MW4	MW4
Sample Depth					
Sample Number		7-MW5-GW1 (Diss.)	7-MW5-GW1	7-MW4-GW1 (Diss.)	7-MW4-GW1
Laboratory Sample ID		9605398-04	9605398-03	9605398-02	9605398-01
Matrix		water	water	water	water
Date Sampled		5/13/96	5/13/96	5/13/96	5/13/96
Date Analyzed		5/24/96 - 6/21/96	5/24/96 - 6/21/96	5/24/96 - 6/21/96	5/24/96 - 6/21/96
	CRDL				
Antimony	* 6	5 UJ	5 UJ	5 UJ	5 UJ
Arsenic	10	1 U	1 U	1 U	1 U
Barium	200	103 J	147 J	160 J	380
Beryllium	* 4	0.3 U	0.3 J	0.3 U	1.6 J
Cadmium	5	2 U	2.7 U	2.5 U	2 U
Chromium	10	6.6 U	10.6 U	8.4 U	33.5 U
Copper	25	4 U	6.9 J	4 U	27.9
Lead	3	1 U	2.2 J	1 U	10
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	· 40	5 U	6.5 U	7.1 U	60.4
Selenium	5	1 UJ	1 UJ	1 UJ	1 UJ
Silver	10	3 U	3 U	3 U	3 U
Thallium	* 2	2 UJ	2 UJ	2 UJ	2 UJ
Zinc	20	12.2 U	30.6 U	42.8	205
Units (mg/kg) Soil, (ug/L) Water	ug/L				

* Project-specific CRDL

Inorganics	CRDL				
Site		7	7	6	6
Location		MW2	MW2	MW2	MW2
Sample Depth					
Sample Number		7-MW2-GW1 (Diss.)	7-MW2-GW1	6-MW2-GW1 (Diss.)	6-MW2-GW1
Laboratory Sample ID		9605398-07	9605398-06	9605398-09	9605398-08
Matrix		water	water	water	water
Date Sampled		5/12/96	5/12/96	5/13/96	5/13/96
Date Analyzed		5/24/96 - 6/21/96	5/24/96 - 6/21/96	5/24/96 - 6/21/96	5/24/96 - 6/21/96
Antimony	* 6	5 UJ	5 UJ	5 UJ	5 UJ
Arsenic	10	1 U	1 U	1 U	1 UJ
Barium	200	96 J	108 J	119 J	202
Beryllium	* 4	0.3 U	0.3 U	0.3 U	0.8 J
Cadmium	5	2 U	2.9 U	2.9 U	2 U
Chromium	10	6 U	6 U	8.4 U	17.5 U
Copper	25	4 U	4 U	4 U	11.3 J
Lead	3	1 U	1 U	1 U	4.4
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	5 U	5 U	10.1 U	21 U
Selenium	5	1 UJ	1 UJ	1.2 J	1 UJ
Silver	10	3 U	3 U	3 U	3 U
Thallium	* 2	2 UJ	2 UJ	2 UJ	2 UJ
Zinc	20	60.6	73.7	57.1	107
Units (mg/kg) Soil, (ug/L) Water	ug/L				

* Project-specific CRDL

JP4, Gas, Diesel, Oil					
Site		7	7	7	6
Location		MW5	MW4	MW2	MW2
Sample Depth					
Sample Number		7-MW5-GW1	7-MW4-GW1	7-MW2-GW1	6-MW2-GW1
Laboratory Sample ID		9605398-03	9605398-01	9605398-06	9605398-08
Matrix		water	water	water	water
Date Sampled		5/13/96	5/13/96	5/12/96	5/13/96
Date Analyzed		5/18-23/96	5/17-23/96	5/18-23/96	5/18-23/96
	* RL				
Diesel range, as diesel	0.25	0.25 U	0.34	0.25 U	0.35 NJ
Oil range, as oil	1	1 U	1 U	1 U	1 U
JP-4	0.25	0.29	0.52	0.27	0.76
Gasoline range	0.25	0.25 U	1.4 NJ	0.34 NJ	0.25 U
Units (mg/kg) Soil, (mg/L) Water	mg/L				

* RL - Reporting Limit

Low Level Volatile Organic Compounds						
Site						8
Location						MW4
Sample Depth						
Sample Number		TB-G	TB-F	TB-E	TB-D	8-MW4-GW1DL
Laboratory Sample ID		9605494-05	9605494-10	9605458-10	9605458-05	9605458-03DL
Matrix		water	water	water	water	water
Date Sampled		5/15/96	5/15/96	5/14/96	5/14/96	5/14/96
Date Analyzed		5/16/96	5/16/96	5/15/96	5/15/96	5/16/96
	CRQL					
Chloromethane	1	1 U	1 U	1 U	1 U	2 U
Vinyl chloride	1	1 U	1 U	1 U	1 U	2 U
Bromomethane	1	1 U	1 U	1 U	1 U	2 U
Chloroethane	1	1 U	1 U	1 U	1 U	2 U
1,1-Dichloroethene	1	1 U	1 U	1 U	1 U	0.54 J
Acetone	1	1 U	1 U	1 U	1 U	R
Carbon disulfide	1	1 U	1 U	1 U	1 U	2 U
Methylene chloride	2	0.21 BJ	0.2 BJ	0.24 BJ	0.16 BJ	4 U
trans-1,2-Dichloroethene	1	1 U	1 U	1 U	1 U	2 U
1,1-Dichloroethane	1	1 U	1 U	1 U	1 U	0.62 J
cis-1,2-Dichloroethene	1	1 U	1 U	1 U	1 U	18
2-Butanone	5	5 U	5 U	5 U	5 U	R
Bromochloromethane	1	1 U	1 U	1 U	1 U	2 U
Chloroform	1	1 U	1 U	1 U	1 U	1.9 J
1,2-Dichloroethane	1	1 U	1 U	1 U	1 U	2 U
1,1,1-Trichloroethane	1	1 U	1 U	1 U	1 U	0.84 J
Carbon tetrachloride	1	1 U	1 U	1 U	1 U	2 U
Benzene	1	1 U	1 U	1 U	1 U	2 U
Trichloroethene	1	1 U	1 U	1 U	1 U	2 J
1,2-Dichloropropane	1	1 U	1 U	1 U	1 U	2 U
Bromodichloromethane	1	1 U	1 U	1 U	1 U	0.2 J
cis-1,3-Dichloropropene	1	1 U	1 U	1 U	1 U	2 U
4-Methyl-2-pentanone	5	5 U	5 U	5 U	5 U	10 U
Toluene	1	1 U	1 U	1 U	1 U	2 U
trans-1,3-Dichloropropene	1	1 U	1 U	1 U	1 U	2 U
1,1,2-Trichloroethane	1	1 U	1 U	1 U	1 U	2 U
Tetrachloroethene	1	1 U	1 U	1 U	1 U	17 J
2-Hexanone	5	5 U	5 U	5 U	5 U	10 U
Dibromochloromethane	1	1 U	1 U	1 U	1 U	2 U
1,2-Dibromoethane	1	1 U	1 U	1 U	1 U	2 U
Chlorobenzene	1	1 U	1 U	1 U	1 U	2 U
Ethylbenzene	1	1 U	1 U	1 U	1 U	2 U
Styrene	1	1 U	1 U	1 U	1 U	2 U
1,1,2,2-Tetrachloroethane	1	1 U	1 U	1 U	1 U	2 U
Bromoform	1	1 U	1 U	1 U	1 U	2 U
1,3-Dichlorobenzene	1	1 U	1 U	1 U	1 U	2 U
1,4-Dichlorobenzene	1	1 U	1 U	1 U	1 U	2 U
1,2-Dichlorobenzene	1	1 U	1 U	1 U	1 U	2 U

Low Level Volatile Organic Compounds	CRQL					
Site						8
Location						MW4
Sample Depth						
Sample Number		TB-G	TB-F	TB-E	TB-D	8-MW4-GW1DL
Laboratory Sample ID		9605494-05	9605494-10	9605458-10	9605458-05	9605458-03DL
Matrix		water	water	water	water	water
Date Sampled		5/15/96	5/15/96	5/14/96	5/14/96	5/14/96
Date Analyzed		5/16/96	5/16/96	5/15/96	5/15/96	5/16/96
1,2-Dibromo-3-chloropropane	1	1 U	1 U	1 U	1 U	R
Xylene (total)	1	1 U	1 U	1 U	1 U	2 U
Total TIC concentration		0	0	0	0	0
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		1	1	1	1	2
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL	25.0 mL	25.0 mL

Low Level Volatile Organic Compounds						
Site		8	8	8	8	8
Location		MW4	MW4	MW3	MW3	MW3
Sample Depth						
Sample Number		8-MW4-GW1	8-MW4-GW1	8-MW3-GW1DL	8-MW3-GW1	8-MW3-GW1
Laboratory Sample ID		9605458-03	9605458-03	9605494-08DL	9605494-08	9605494-08
Matrix		water	water	water	water	water
Date Sampled		5/14/96	5/14/96	5/15/96	5/15/96	5/15/96
Date Analyzed		5/15/96	Composite result	5/17/96	5/16/96	Composite result
	CRQL					
Chloromethane	1	1 U	1 U	50 U	1 U	1 U
Vinyl chloride	1	1 U	1 U	50 U	0.22 J	0.22 J
Bromomethane	1	1 U	1 U	50 U	1 U	1 U
Chloroethane	1	1 U	1 U	50 U	1 U	1 U
1,1-Dichloroethene	1	0.67 J	0.67 J	50 U	3.8	3.8
Acetone	1	R	R	R	R	R
Carbon disulfide	1	1 U	1 U	50 U	1 U	1 U
Methylene chloride	2	2 U	2 U	100 U	2 U	2 U
trans-1,2-Dichloroethene	1	1 U	1 U	50 U	0.38 J	0.38 J
1,1-Dichloroethane	1	0.85 J	0.85 J	50 U	10	10
cis-1,2-Dichloroethene	1	26 J	18	520	380 J	520
2-Butanone	5	R	R	R	R	R
Bromochloromethane	1	1 U	1 U	50 U	1 U	1 U
Chloroform	1	2.7	2.7	50 U	4.3	4.3
1,2-Dichloroethane	1	1 U	1 U	50 U	1 U	1 U
1,1,1-Trichloroethane	1	0.97 J	0.97 J	5.5 J	6.1	6.1
Carbon tetrachloride	1	1 U	1 U	50 U	0.77 J	0.77 J
Benzene	1	1 U	1 U	50 U	0.12 J	0.12 J
Trichloroethene	1	2.5	2.5	55	48 J	55
1,2-Dichloropropane	1	1 U	1 U	50 U	1 U	1 U
Bromodichloromethane	1	0.32 J	0.32 J	50 U	0.28 J	0.28 J
cis-1,3-Dichloropropene	1	1 U	1 U	50 U	1 U	1 U
4-Methyl-2-pentanone	5	5 U	5 U	250 U	5 U	5 U
Toluene	1	1 U	1 U	50 U	1 U	1 U
trans-1,3-Dichloropropene	1	1 U	1 U	50 U	1 U	1 U
1,1,2-Trichloroethane	1	1 U	1 U	50 U	1 U	1 U
Tetrachloroethene	1	18	18	50 U	1 U	1 U
2-Hexanone	5	5 U	5 U	250 U	5 U	5 U
Dibromochloromethane	1	1 U	1 U	50 U	1 U	1 U
1,2-Dibromoethane	1	1 U	1 U	50 U	1 U	1 U
Chlorobenzene	1	1 U	1 U	50 U	1 U	1 U
Ethylbenzene	1	1 U	1 U	50 U	1 U	1 U
Styrene	1	1 U	1 U	50 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1	1 U	1 U	50 U	1 U	1 U
Bromoform	1	1 U	1 U	50 U	1 U	1 U
1,3-Dichlorobenzene	1	1 U	1 U	50 U	1 U	1 U
1,4-Dichlorobenzene	1	1 U	1 U	50 U	1 U	1 U
1,2-Dichlorobenzene	1	1 U	1 U	50 U	1 U	1 U

Low Level Volatile Organic Compounds	CRQL					
Site		8	8	8	8	8
Location		MW4	MW4	MW3	MW3	MW3
Sample Depth						
Sample Number		8-MW4-GW1	8-MW4-GW1	8-MW3-GW1DL	8-MW3-GW1	8-MW3-GW1
Laboratory Sample ID		9605458-03	9605458-03	9605494-08DL	9605494-08	9605494-08
Matrix		water	water	water	water	water
Date Sampled		5/14/96	5/14/96	5/15/96	5/15/96	5/15/96
Date Analyzed		5/15/96	Composite result	5/17/96	5/16/96	Composite result
1,2-Dibromo-3-chloropropane	1	R	R	R	R	R
Xylene (total)	1	1 U	1 U	50 U	1 U	1 U
Total TIC concentration		0		0	0	
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		1	Composite result	50	1	Composite result
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL	25.0 mL	25.0 mL

Low Level Volatile Organic Compounds						
Site		8	8	8	8	7
Location		MW2	MW1	MW1	MW1	MW3
Sample Depth						
Sample Number		8-MW2-GW1	8-MW1-GW1DL	8-MW1-GW1	8-MW1-GW1	7-MW3-GW2A
Laboratory Sample ID		9605458-01	9605494-06DL	9605494-06	9605494-06	9605494-03
Matrix		water	water	water	water	water
Date Sampled		5/14/96	5/15/96	5/15/96	5/15/96	5/15/96
Date Analyzed		5/15/96	5/17/96	5/16/96	Composite result	5/16/96
	CRQL					
Chloromethane	1	1 U	50 U	1 U	1 U	1 U
Vinyl chloride	1	1 U	50 U	1 U	1 U	1 U
Bromomethane	1	1 U	50 U	1 U	1 U	1 U
Chloroethane	1	1 U	50 U	1 U	1 U	1 U
1,1-Dichloroethene	1	0.54 J	50 U	2.1	2.1	0.07 J
Acetone	1	R	R	R	R	R
Carbon disulfide	1	1 U	50 U	1 U	1 U	1 U
Methylene chloride	2	2 U	100 U	2 U	2 U	2 U
trans-1,2-Dichloroethene	1	1 U	50 U	0.63 J	0.63 J	1 U
1,1-Dichloroethane	1	0.3 J	14 J	16	16	1 U
cis-1,2-Dichloroethene	1	4.9	830	230 J	830	0.29 J
2-Butanone	5	R	R	R	R	R
Bromochloromethane	1	1 U	50 U	1 U	1 U	1 U
Chloroform	1	1.3	50 U	0.9 J	0.9 J	4.6
1,2-Dichloroethane	1	1 U	50 U	0.86 J	0.86 J	1 U
1,1,1-Trichloroethane	1	0.74 J	50 U	4.6	4.6	0.19 J
Carbon tetrachloride	1	1 U	50 U	0.49 J	0.49 J	1 U
Benzene	1	1 U	50 U	1 U	1 U	1 U
Trichloroethene	1	3	52	55 J	52	1.1
1,2-Dichloropropane	1	1 U	50 U	1 U	1 U	1 U
Bromodichloromethane	1	1 U	50 U	1 U	1 U	0.13 J
cis-1,3-Dichloropropene	1	1 U	50 U	1 U	1 U	1 U
4-Methyl-2-pentanone	5	5 U	250 U	5 U	5 U	5 U
Toluene	1	1 U	50 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1	1 U	50 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	1 U	50 U	0.42 J	0.42 J	1 U
Tetrachloroethene	1	11	50 U	1.8	1.8	1.9
2-Hexanone	5	5 U	250 U	5 U	5 U	5 U
Dibromochloromethane	1	1 U	50 U	1 U	1 U	1 U
1,2-Dibromoethane	1	1 U	50 U	1 U	1 U	1 U
Chlorobenzene	1	1 U	50 U	1 U	1 U	1 U
Ethylbenzene	1	1 U	50 U	1 U	1 U	1 U
Styrene	1	1 U	50 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1	1 U	50 U	1 U	1 U	1 U
Bromoform	1	1 U	50 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1	1 U	50 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1	1 U	50 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1	1 U	50 U	1 U	1 U	1 U

Low Level Volatile Organic Compounds						
Site		8	8	8	8	7
Location		MW2	MW1	MW1	MW1	MW3
Sample Depth						
Sample Number		8-MW2-GW1	8-MW1-GW1DL	8-MW1-GW1	8-MW1-GW1	7-MW3-GW2A
Laboratory Sample ID		9605458-01	9605494-06DL	9605494-06	9605494-06	9605494-03
Matrix		water	water	water	water	water
Date Sampled		5/14/96	5/15/96	5/15/96	5/15/96	5/15/96
Date Analyzed		5/15/96	5/17/96	5/16/96	Composite result	5/16/96
	CRQL					
1,2-Dibromo-3-chloropropane	1	R	R	R	R	R
Xylene (total)	1	1 U	50 U	1 U	1 U	1 U
Total TIC concentration		4.3	0	0		0
Units (ug/kg) Soil, (ug/L) Water						
Dilution Factor		1	50	1	Composite result	1
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL	25.0 mL	25.0 mL

Low Level Volatile Organic Compounds				
Site		7	6	6
Location		MW3	MW3	MW1
Sample Depth				
Sample Number		7-MW3-GW2	6-MW3-GW1	6-MW1-GW2
Laboratory Sample ID		9605494-01	9605458-08	9605458-06
Matrix		water	water	water
Date Sampled		5/15/96	5/14/96	5/14/96
Date Analyzed		5/16/96	5/15/96	5/15/96
	CRQL			
Chloromethane	1	1 U	1 U	1 U
Vinyl chloride	1	1 U	1 U	1 U
Bromomethane	1	1 U	1 U	1 U
Chloroethane	1	1 U	1 U	1 U
1,1-Dichloroethene	1	1 U	1 U	1 U
Acetone	1	R	4.4 J	R
Carbon disulfide	1	1 U	1 U	1 U
Methylene chloride	2	2 U	2 U	2 U
trans-1,2-Dichloroethene	1	1 U	1 U	1 U
1,1-Dichloroethane	1	1 U	0.43 J	0.32 J
cis-1,2-Dichloroethene	1	0.3 J	1.3	6
2-Butanone	5	R	2.9 J	R
Bromochloromethane	1	1 U	1 U	1 U
Chloroform	1	4.6	1 U	1 U
1,2-Dichloroethane	1	1 U	1 U	1 U
1,1,1-Trichloroethane	1	0.2 J	1 U	1 U
Carbon tetrachloride	1	0.1 J	1 U	1 U
Benzene	1	1 U	0.11 J	1 U
Trichloroethene	1	1.1	1.1	1 U
1,2-Dichloropropane	1	1 U	1 U	1 U
Bromodichloromethane	1	0.12 J	1 U	1 U
cis-1,3-Dichloropropene	1	1 U	1 U	1 U
4-Methyl-2-pentanone	5	5 U	3 J	5 U
Toluene	1	1 U	1 U	1 U
trans-1,3-Dichloropropene	1	1 U	1 U	1 U
1,1,2-Trichloroethane	1	1 U	1 U	1 U
Tetrachloroethene	1	1.9	1 U	1 U
2-Hexanone	5	5 U	5 U	5 U
Dibromochloromethane	1	1 U	1 U	1 U
1,2-Dibromoethane	1	1 U	1 U	1 U
Chlorobenzene	1	1 U	1 U	1 U
Ethylbenzene	1	1 U	1 U	0.14 J
Styrene	1	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1	1 U	1 U	1 U
Bromoform	1	1 U	1 U	1 U
1,3-Dichlorobenzene	1	1 U	1 U	1 U
1,4-Dichlorobenzene	1	1 U	1 U	1 U
1,2-Dichlorobenzene	1	1 U	1 U	1 U

Low Level Volatile Organic Compounds	CRQL			
Site		7	6	6
Location		MW3	MW3	MW1
Sample Depth				
Sample Number		7-MW3-GW2	6-MW3-GW1	6-MW1-GW2
Laboratory Sample ID		9605494-01	9605458-08	9605458-06
Matrix		water	water	water
Date Sampled		5/15/96	5/14/96	5/14/96
Date Analyzed		5/16/96	5/15/96	5/15/96
1,2-Dibromo-3-chloropropane	1	R	R	R
Xylene (total)	1	1 U	1 U	1 U
Total TIC concentration		0	2.3	0
Units (ug/kg) Soil, (ug/L) Water				
Dilution Factor		1	1	1
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL

Semivolatile Organic Compounds						
Site		8	8	8	8	7
Location		MW4	MW3	MW2	MW1	MW3
Sample Depth						
Sample Number		8-MW4-GW1	8-MW3-GW1	8-MW2-GW1	8-MW1-GW1	7-MW3-GW2A
Laboratory Sample ID		9605458-03	9605494-08	9605458-01	9605494-06	9605494-03
Matrix		water	water	water	water	water
Date Sampled		5/14/96	5/15/96	5/14/96	5/15/96	5/15/96
Date Analyzed		5/23/96	5/24/96	5/24/96	5/24/96	5/24/96
	CRQL					
bis(2-Chloroethyl)ether	10	10 U	10 U	10 U	10 U	10 U
Phenol	10	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
2,2'- oxybis(1-Chloropropane)	10	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10	10 U	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	10	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10	10 U	10 U	10 U	10 U	10 U
Isophorone	10	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	10	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
Naphthalene	10	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	10	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25	25 U	25 U	25 U	25 U	25 U
2-Chloronaphthalene	10	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25	25 U	25 U	25 U	25 U	25 U
Acenaphthylene	10	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10	10 U	10 U	10 U	10 U	10 U
Acenaphthene	10	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	25	25 U	25 U	25 U	25 U	25 U
2,4-Dinitrophenol	25	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	25	25 U	25 U	25 U	25 U	25 U
Fluorene	10	10 U	10 U	10 U	10 U	10 U

Semivolatile Organic Compounds	CRQL					
Site		8	8	8	8	7
Location		MW4	MW3	MW2	MW1	MW3
Sample Depth						
Sample Number		8-MW4-GW1	8-MW3-GW1	8-MW2-GW1	8-MW1-GW1	7-MW3-GW2A
Laboratory Sample ID		9605458-03	9605494-08	9605458-01	9605494-06	9605494-03
Matrix		water	water	water	water	water
Date Sampled		5/14/96	5/15/96	5/14/96	5/15/96	5/15/96
Date Analyzed		5/23/96	5/24/96	5/24/96	5/24/96	5/24/96
4-Chlorophenyl-phenylether	10	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10	10 U	1 J	10 U	10 U	10 U
4-Nitroaniline	25	25 U	25 U	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25	25 U	25 U	25 U	25 U	25 U
n-Nitrosodiphenylamine	10	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	10	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10	10 U	10 U	10 U	10 U	10 U
Anthracene	10	10 U	10 U	10 U	10 U	10 U
Carbazole	10	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10	10 U	10 U	10 U	10 U	10 U
Pyrene	10	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Benzo[a]anthracene	10	10 U	10 U	10 U	10 U	10 U
Chrysene	10	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	10	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	10	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	10	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	10	10 U	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	10	10 U	10 U	10 U	10 U	10 U
Benzo[g,h,i]perylene	10	10 U	10 U	10 U	10 U	10 U
Total TIC concentration		32	22	18	35	32
Units (ug/kg) Soil, (ug/L) Water	ug/L					
Dilution Factor		1	1	1	1	1
Sample Weight/Volume		1000 mL	1000 mL	1000 mL	1000 mL	1000 mL

Semivolatile Organic Compounds				
Site		7	6	6
Location		MW3	MW3	MW1
Sample Depth				
Sample Number		7-MW3-GW2	6-MW3-GW1	6-MW1-GW2
Laboratory Sample ID		9605494-01	9605458-08	9605458-06
Matrix		water	water	water
Date Sampled		5/15/96	5/14/96	5/14/96
Date Analyzed		5/24/96	5/24/96	5/24/96
	CRQL			
bis(2-Chloroethyl)ether	10	10 U	10 U	10 U
Phenol	10	10 U	10 U	10 U
2-Chlorophenol	10	10 U	10 U	10 U
1,3-Dichlorobenzene	10	10 U	10 U	10 U
1,4-Dichlorobenzene	10	10 U	10 U	10 U
1,2-Dichlorobenzene	10	10 U	10 U	10 U
2,2'- oxybis(1-Chloropropane)	10	10 U	10 U	10 U
2-Methylphenol	10	10 U	10 U	10 U
Hexachloroethane	10	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10	10 U	10 U	10 U
4-Methylphenol	10	10 U	10 U	10 U
Nitrobenzene	10	10 U	10 U	10 U
Isophorone	10	10 U	10 U	10 U
2-Nitrophenol	10	10 U	10 U	10 U
2,4-Dimethylphenol	10	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10	10 U	10 U	10 U
2,4-Dichlorophenol	10	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10	10 U	10 U	10 U
Naphthalene	10	10 U	10 U	1 J
4-Chloroaniline	10	10 U	10 U	10 U
Hexachlorobutadiene	10	10 U	10 U	10 U
4-Chloro-3-methylphenol	10	10 U	10 U	10 U
2-Methylnaphthalene	10	10 U	10 U	1 J
Hexachlorocyclopentadiene	10	10 U	10 U	10 U
2,4,6-Trichlorophenol	10	10 U	10 U	10 U
2,4,5-Trichlorophenol	25	25 U	25 U	25 U
2-Chloronaphthalene	10	10 U	10 U	10 U
2-Nitroaniline	25	25 U	25 U	25 U
Acenaphthylene	10	10 U	10 U	10 U
Dimethylphthalate	10	10 U	10 U	10 U
2,6-Dinitrotoluene	10	10 U	10 U	10 U
Acenaphthene	10	10 U	10 U	1 J
3-Nitroaniline	25	25 U	25 U	25 U
2,4-Dinitrophenol	25	25 U	25 U	25 U
Dibenzofuran	10	10 U	10 U	10 U
2,4-Dinitrotoluene	10	10 U	10 U	10 U
4-Nitrophenol	25	25 U	25 U	25 U
Fluorene	10	10 U	10 U	1 J

Semivolatile Organic Compounds				
Site		7	6	6
Location		MW3	MW3	MW1
Sample Depth				
Sample Number		7-MW3-GW2	6-MW3-GW1	6-MW1-GW2
Laboratory Sample ID		9605494-01	9605458-08	9605458-06
Matrix		water	water	water
Date Sampled		5/15/96	5/14/96	5/14/96
Date Analyzed		5/24/96	5/24/96	5/24/96
	CRQL			
4-Chlorophenyl-phenylether	10	10 U	10 U	10 U
Diethylphthalate	10	1 J	1 J	1 J
4-Nitroaniline	25	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25	25 U	25 U	25 U
n-Nitrosodiphenylamine	10	10 U	10 U	10 U
4-Bromophenyl-phenylether	10	10 U	10 U	10 U
Hexachlorobenzene	10	10 U	10 U	10 U
Pentachlorophenol	25	25 U	25 U	25 U
Phenanthrene	10	10 U	10 U	10 U
Anthracene	10	10 U	10 U	10 U
Carbazole	10	10 U	10 U	10 U
Di-n-butylphthalate	10	10 U	10 U	10 U
Fluoranthene	10	10 U	10 U	10 U
Pyrene	10	10 U	10 U	10 U
Butylbenzylphthalate	10	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10	10 UJ	10 UJ	10 UJ
Benzo[a]anthracene	10	10 U	10 U	10 U
Chrysene	10	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10	10 U	10 U	10 U
Di-n-octylphthalate	10	10 U	10 U	10 U
Benzo[b]fluoranthene	10	10 U	10 U	10 U
Benzo[k]fluoranthene	10	10 U	10 U	10 U
Benzo[a]pyrene	10	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	10	10 U	10 U	10 U
Dibenz[a,h]anthracene	10	10 U	10 U	10 U
Benzo[g,h,i]perylene	10	10 U	10 U	10 U
Total TIC concentration		26	26	1418
Units (ug/kg) Soil, (ug/L) Water	ug/L			
Dilution Factor		1	1	1
Sample Weight/Volume		1000 mL	1000 mL	1000 mL

Inorganics					
Site		8	8	8	8
Location		MW4	MW4	MW3	MW3
Sample Depth					
Sample Number		8-MW4-GW1 (Diss.)	8-MW4-GW1	8-MW3-GW1 (Diss.)	8-MW3-GW1
Laboratory Sample ID		9605458-04	9605458-03	9605494-09	9605494-08
Matrix		water	water	water	water
Date Sampled		5/14/96	5/14/96	5/15/96	5/15/96
Date Analyzed		5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96
	CRDL				
Antimony	* 6	2 U	3.7 J	2 U	2.3 J
Arsenic	10	1 U	1 U	1 U	1 UJ
Barium	200	102 J	212	187 J	207
Beryllium	* 4	0.3 U	0.5 U	0.3 U	0.4 U
Cadmium	5	2 U	2 U	2.8 U	2.1 U
Chromium	10	6 U	17.6 U	12.7 U	15.4 U
Copper	25	4 U	9.7 J	4.6 J	11.9 J
Lead	3	1 U	2.5 J	1 U	2.4 J
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	5 U	6.9 U	5 U	6.2 U
Selenium	5	1 U	1 U	1 U	1 UJ
Silver	10	3 U	3 U	3 U	3 U
Thallium	* 2	2 U	2 U	2 U	2 U
Zinc	20	13.7 J	69.2	458	250

Units (mg/kg) Soil, (ug/L) Water
* Project-specific CRDL

Inorganics	CRDL				
Site		8	8	8	8
Location		MW2	MW2	MW1	MW1
Sample Depth					
Sample Number		8-MW2-GW1 (Diss.)	8-MW2-GW1	8-MW1-GW1 (Diss.)	8-MW1-GW1
Laboratory Sample ID		9605458-02	9605458-01	9605494-07	9605494-06
Matrix		water	water	water	water
Date Sampled		5/14/96	5/14/96	5/15/96	5/15/96
Date Analyzed		5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96
Antimony	* 6	2 U	2 U	2 U	2 U
Arsenic	10	1 UJ	1 UJ	1 U	1 U
Barium	200	50.2 J	74.6 J	37.6 J	96.7 J
Beryllium	* 4	0.3 U	0.5 U	0.3 U	0.8 U
Cadmium	5	2 U	2.6 U	3.5 U	2 U
Chromium	10	9.5 U	12.6 U	7.1 U	8.8 U
Copper	25	4 U	6.3 J	4 U	4 U
Lead	3	1 U	1 U	1 U	6.3
Mercury	0.2	0.46	0.2 U	0.2 U	0.2 U
Nickel	40	5 U	5 U	5 U	5 U
Selenium	5	1.2 U	1.2 U	1 U	1 UJ
Silver	10	3 U	3 U	3 U	3 U
Thallium	* 2	2 UJ	2 UJ	2 U	2 U
Zinc	20	6.7 U	14.3 J	7.4 U	31.5

Units (mg/kg) Soil, (ug/L) Water
* Project-specific CRDL

Inorganics	CRDL				
Site		7	7	7	7
Location		MW3	MW3	MW3	MW3
Sample Depth					
Sample Number		7-MW3-GW2A (Diss.)	7-MW3-GW2A	7-MW3-GW2 (Diss.)	7-MW3-GW2
Laboratory Sample ID		9605494-04	9605494-03	9605494-02	9605494-01
Matrix		water	water	water	water
Date Sampled		5/15/96	5/15/96	5/15/96	5/15/96
Date Analyzed		5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96
Antimony	* 6	2 U	2 U	2 U	2 U
Arsenic	10	1 U	1 U	1 U	1 U
Barium	200	89.4 J	138 J	91.7 J	127 J
Beryllium	* 4	0.3 U	0.5 U	0.3 U	0.4 U
Cadmium	5	2 U	2.6 U	2 U	3.5 U
Chromium	10	8.2 U	15.3 U	7.1 U	14 U
Copper	25	4 U	4.6 J	4 U	4.8 J
Lead	3	1 U	1.9 J	1 U	1.3 J
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	5 U	5 U	5 U	5 U
Selenium	5	1 U	1 UJ	1 U	1 U
Silver	10	3 U	3 U	3 U	3 U
Thallium	* 2	2 UJ	2 U	2 UJ	2 U
Zinc	20	22.6	52.8	19.8 J	44.6

Units (mg/kg) Soil, (ug/L) Water
* Project-specific CRDL

Inorganics					
Site		6	6	6	6
Location		MW3	MW3	MW1	MW1
Sample Depth					
Sample Number		6-MW3-GW1 (Diss.)	6-MW3-GW1	6-MW1-GW2 (Diss.)	6-MW1-GW2
Laboratory Sample ID		9605458-09	9605458-08	9605458-07	9605458-06
Matrix		water	water	water	water
Date Sampled		5/14/96	5/14/96	5/14/96	5/14/96
Date Analyzed		5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96	5/24/96 - 6/4/96
	CRDL				
Antimony	* 6	2 U	2 U	2 U	2 U
Arsenic	10	1 U	1 U	1 U	1 U
Barium	200	270	350	131 J	233
Beryllium	* 4	0.3 U	0.7 U	0.3 U	0.8 U
Cadmium	5	2.7 U	2 U	2 U	2 U
Chromium	10	6 U	17.2 U	9.2 U	21.2 U
Copper	25	4.9 J	18.7 J	4 U	4.3 J
Lead	3	1 U	3.1	1 U	5.8
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	8.1 U	33.7 J	5 U	5.6 U
Selenium	5	1 U	1 UJ	1 UJ	1 UJ
Silver	10	3 U	3 U	3 U	3 U
Thallium	* 2	2 U	2 U	2 UJ	2 U
Zinc	20	77.4	291	8.5 U	33.3

Units (mg/kg) Soil, (ug/L) Water

* Project-specific CRDL

JP4, Gas, Diesel, Oil					
Site		8	8	8	8
Location		MW4	MW3	MW2	MW1
Sample Depth					
Sample Number		8-MW4-GW1	8-MW3-GW1	8-MW2-GW1	8-MW1-GW1
Laboratory Sample ID		9605458-03	9605494-08	9605458-01	9605494-06
Matrix		water	water	water	water
Date Sampled		5/14/96	5/15/96	5/14/96	5/15/96
Date Analyzed		5/17/96 - 6/8/96	5/17-31/96	5/17-23/96	5/17-31/96
	* RL				
Gasoline range	0.25	0.25 U	0.25 U	0.25 U	0.25 U
Diesel range, as diesel	0.25	0.29 NJ	0.25 U	0.25 U	0.28 NJ
Oil range, as oil	1	1 U	1 U	1 U	1 U
JP-4	0.25	0.25 U	0.25 U	0.25 U	0.25 U
Units (mg/kg) Soil, (mg/L) Water	mg/L				

* RL - Reporting Limit

JP4, Gas, Diesel, Oil

Site		7	7	6	6
Location		MW3	MW3	MW3	MW1
Sample Depth					
Sample Number		7-MW3-GW2A	7-MW3-GW2	6-MW3-GW1	6-MW1-GW2
Laboratory Sample ID		9605494-03	9605494-01	9605458-08	9605458-06
Matrix		water	water	water	water
Date Sampled		5/15/96	5/15/96	5/14/96	5/14/96
Date Analyzed		5/17-31/96	5/23-31/96	5/17-31/96	5/17-31/96
	* RL				
Gasoline range	0.25	0.25 U	0.25 U	0.25 U	0.25 U
Diesel range, as diesel	0.25	0.25 U	0.25 U	0.25 U	0.99 NJ
Oil range, as oil	1	1 U	1 U	1 U	2.3
JP-4	0.25	0.27 NJ	0.25 U	0.25 U	1.7 NJ
Units (mg/kg) Soil, (mg/L) Water	mg/L				

* RL - Reporting Limit

Low Level Volatile Organic Compounds					
Site				1	1
Location				MW2	MW2
Sample Depth					
Sample Number		TB-H	TB-1	1-MW2-GW2A	1-MW2-GW2
Laboratory Sample ID		9605516-05	9605545-02	9605516-03	9605516-01
Matrix		water	water	water	water
Date Sampled		5/16/96	5/17/96	5/16/96	5/16/96
Date Analyzed		5/17/96	5/28/96	5/17/96	5/17/96
	CRQL				
Chloromethane	1	1 U	1 U	1 U	1 U
Vinyl chloride	1	1 U	1 U	1 U	1 U
Bromomethane	1	1 U	1 U	1 U	1 U
Chloroethane	1	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1	1 U	1 U	1 U	1 U
Acetone	1	1 U	1 U	R	R
Carbon disulfide	1	1 U	1 U	1 U	1 U
Methylene chloride	2	0.24 BJ	0.21 BJ	2 U	2 U
trans-1,2-Dichloroethene	1	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1	1 U	1 U	1 U	1 U
2-Butanone	5	5 U	5 U	R	R
Bromochloromethane	1	1 U	1 U	1 U	1 U
Chloroform	1	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1	1 U	1 U	1 U	1 U
Carbon tetrachloride	1	1 U	1 U	1 U	1 U
Benzene	1	1 U	1 U	1 U	1 U
Trichloroethene	1	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1	1 U	1 U	1 U	1 U
Bromodichloromethane	1	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	5	5 U	5 U	5 U	5 U
Toluene	1	0.05 J	0.03 J	1 U	1 U
trans-1,3-Dichloropropene	1	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	1 U	1 U	1 U	1 U
Tetrachloroethene	1	1 U	1 U	1 U	1 U
2-Hexanone	5	5 U	5 U	5 U	5 U
Dibromochloromethane	1	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1	1 U	1 U	1 U	1 U
Chlorobenzene	1	1 U	1 U	1 U	1 U
Ethylbenzene	1	1 U	1 U	1 U	1 U
Styrene	1	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1	1 U	1 U	1 U	1 U

Low Level Volatile Organic Compounds	CRQL				
Site				1	1
Location				MW2	MW2
Sample Depth					
Sample Number		TB-H	TB-1	1-MW2-GW2A	1-MW2-GW2
Laboratory Sample ID		9605516-05	9605545-02	9605516-03	9605516-01
Matrix		water	water	water	water
Date Sampled		5/16/96	5/17/96	5/16/96	5/16/96
Date Analyzed		5/17/96	5/28/96	5/17/96	5/17/96
Bromoform	1	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	1	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1	1 U	1 U	R	R
Xylene (total)	1	1 U	1 U	1 U	1 U
Total TIC concentration		0	0	0	0
Units (ug/kg) Soil, (ug/L) Water	ug/L				
Dilution Factor		1	1	1	1
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL	25.0 mL

Low Level Volatile Organic Compounds		
Site		1
Location		MW1
Sample Depth		
Sample Number		1-MW1-GW1
Laboratory Sample ID		9605545-01
Matrix		water
Date Sampled		5/16/96
Date Analyzed		5/28/96
	CRQL	
Chloromethane	1	1 UJ
Vinyl chloride	1	1 U
Bromomethane	1	1 U
Chloroethane	1	1 UJ
1,1-Dichloroethene	1	1 U
Acetone	1	R
Carbon disulfide	1	1 U
Methylene chloride	2	2 U
trans-1,2-Dichloroethene	1	1 U
1,1-Dichloroethane	1	1 U
cis-1,2-Dichloroethene	1	1 U
2-Butanone	5	R
Bromochloromethane	1	1 U
Chloroform	1	1 U
1,2-Dichloroethane	1	1 U
1,1,1-Trichloroethane	1	1 U
Carbon tetrachloride	1	1 U
Benzene	1	1 U
Trichloroethene	1	1 U
1,2-Dichloropropane	1	1 U
Bromodichloromethane	1	1 U
cis-1,3-Dichloropropene	1	1 U
4-Methyl-2-pentanone	5	5 U
Toluene	1	1 U
trans-1,3-Dichloropropene	1	1 U
1,1,2-Trichloroethane	1	1 U
Tetrachloroethene	1	1 U
2-Hexanone	5	5 U
Dibromochloromethane	1	1 U
1,2-Dibromoethane	1	1 U
Chlorobenzene	1	1 U
Ethylbenzene	1	1 U
Styrene	1	1 U
1,1,2,2-Tetrachloroethane	1	1 U

Low Level Volatile Organic Compounds		
Site		1
Location		MW1
Sample Depth		
Sample Number		1-MW1-GW1
Laboratory Sample ID		9605545-01
Matrix		water
Date Sampled		5/16/96
Date Analyzed		5/28/96
	CRQL	
Bromoform	1	1 U
1,3-Dichlorobenzene	1	1 U
1,4-Dichlorobenzene	1	1 U
1,2-Dichlorobenzene	1	1 U
1,2-Dibromo-3-chloropropane	1	R
Xylene (total)	1	1 U
Total TIC concentration		0
Units (ug/kg) Soil, (ug/L) Water	ug/L	
Dilution Factor		1
Sample Weight/Volume		25.0 mL

Semivolatile Organic Compounds				
Site		1	1	1
Location		MW2	MW2	MW1
Sample Depth				
Sample Number		1-MW2-GW2A	1-MW2-GW2	1-MW1-GW1
Laboratory Sample ID		9605516-03	9605516-01	9605545-01
Matrix		water	water	water
Date Sampled		5/16/96	5/16/96	5/16/96
Date Analyzed		5/28/96	5/28/96	5/28/96
	CRQL			
bis(2-Chloroethyl)ether	10	10 U	10 U	10 U
Phenol	10	10 U	10 U	10 U
2-Chlorophenol	10	10 U	10 U	10 U
1,3-Dichlorobenzene	10	10 U	10 U	10 U
1,4-Dichlorobenzene	10	10 U	10 U	10 U
1,2-Dichlorobenzene	10	10 U	10 U	10 U
2,2'- oxybis(1-Chloropropane)	10	10 U	10 U	10 U
2-Methylphenol	10	10 U	10 U	10 U
Hexachloroethane	10	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10	10 U	10 U	10 U
4-Methylphenol	10	10 U	10 U	10 U
Nitrobenzene	10	10 U	10 U	10 U
Isophorone	10	10 U	10 U	10 U
2-Nitrophenol	10	10 U	10 U	10 U
2,4-Dimethylphenol	10	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10	10 U	10 U	10 U
2,4-Dichlorophenol	10	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10	10 U	10 U	10 U
Naphthalene	10	10 U	10 U	10 U
4-Chloroaniline	10	10 U	10 U	10 U
Hexachlorobutadiene	10	10 U	10 U	10 U
4-Chloro-3-methylphenol	10	10 U	10 U	10 U
2-Methylnaphthalene	10	10 U	10 U	10 U
Hexachlorocyclopentadiene	10	10 U	10 U	10 U
2,4,6-Trichlorophenol	10	10 U	10 U	10 U
2,4,5-Trichlorophenol	25	25 U	25 U	25 U
2-Chloronaphthalene	10	10 U	10 U	10 U
2-Nitroaniline	25	25 U	25 U	25 U
Acenaphthylene	10	10 U	10 U	10 U
Dimethylphthalate	10	10 U	10 U	10 U
2,6-Dinitrotoluene	10	10 U	10 U	10 U
Acenaphthene	10	10 U	10 U	10 U
3-Nitroaniline	25	25 U	25 U	25 U
2,4-Dinitrophenol	25	25 U	25 U	25 U
Dibenzofuran	10	10 U	10 U	10 U
2,4-Dinitrotoluene	10	10 U	10 U	10 U
4-Nitrophenol	25	25 U	25 U	25 U
Fluorene	10	10 U	10 U	10 U

Semivolatile Organic Compounds				
Site		1	1	1
Location		MW2	MW2	MW1
Sample Depth				
Sample Number		1-MW2-GW2A	1-MW2-GW2	1-MW1-GW1
Laboratory Sample ID		9605516-03	9605516-01	9605545-01
Matrix		water	water	water
Date Sampled		5/16/96	5/16/96	5/16/96
Date Analyzed		5/28/96	5/28/96	5/28/96
	CRQL			
4-Chlorophenyl-phenylether	10	10 U	10 U	10 U
Diethylphthalate	10	10 U	10 U	1 J
4-Nitroaniline	25	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25	25 U	25 U	25 U
n-Nitrosodiphenylamine	10	10 U	10 U	10 U
4-Bromophenyl-phenylether	10	10 U	10 U	10 U
Hexachlorobenzene	10	10 U	10 U	10 U
Pentachlorophenol	25	25 U	25 U	25 U
Phenanthrene	10	10 U	10 U	10 U
Anthracene	10	10 U	10 U	10 U
Carbazole	10	10 U	10 U	10 U
Di-n-butylphthalate	10	10 U	10 U	1 J
Fluoranthene	10	10 U	10 U	10 U
Pyrene	10	10 U	10 U	10 U
Butylbenzylphthalate	10	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10	10 U	10 U	10 U
Benzo[a]anthracene	10	10 U	10 U	10 U
Chrysene	10	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10	1 J	1 J	1 J
Di-n-octylphthalate	10	10 U	10 U	10 U
Benzo[b]fluoranthene	10	10 U	10 U	10 U
Benzo[k]fluoranthene	10	10 U	10 U	10 U
Benzo[a]pyrene	10	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	10	10 U	10 U	10 U
Dibenz[a,h]anthracene	10	10 U	10 U	10 U
Benzo[g,h,i]perylene	10	10 U	10 U	10 U
Total TIC concentration		0	0	27
Units (ug/kg) Soil, (ug/L) Water	ug/L			
Dilution Factor		1	1	1
Sample Weight/Volume		1000 mL	1000 mL	1000 mL

Inorganics					
Site		1	1	1	1
Location		MW2	MW2	MW2	MW2
Sample Depth					
Sample Number		1-MW2-GW2A (Diss.)	1-MW2-GW2A	1-MW2-GW2 (Diss.)	1-MW2-GW2
Laboratory Sample ID		9605516-04	9605516-03	9605516-02	9605516-01
Matrix		water	water	water	water
Date Sampled		5/16/96	5/16/96	5/16/96	5/16/96
Date Analyzed		5/30/96 - 6/17/96	5/30/96 - 6/17/96	5/30/96 - 6/17/96	5/30/96 - 6/17/96
	CRDL				
Antimony	* 6	2 UJ	2 UJ	2 UJ	2 UJ
Arsenic	10	1 U	1 U	1 U	1 U
Barium	200	83.2 J	104 J	82.8 J	115 J
Beryllium	* 4	0.3 U	0.3 U	0.3 U	0.4 J
Cadmium	5	2 U	2 U	2 U	2 U
Chromium	10	6 U	6 U	6 U	9 J
Copper	25	4 U	4 U	4 U	4 J
Lead	3	1 U	1 U	1 U	1 U
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	5 U	5 U	5 U	5 U
Selenium	5	6.9 J	7.5 J	5.4 UJ	13.5 J
Silver	10	3 U	3 U	3 U	3 U
Thallium	* 2	2 UJ	2 UJ	2 UJ	2 UJ
Zinc	20	18.8 U	27.9	18.4 U	31.1
Units (mg/kg) Soil, (ug/L) Water	ug/L				
* Project-specific CRDL					

JP4, Gas, Diesel, Oil				
Site		1	1	1
Location		MW2	MW2	MW1
Sample Depth				
Sample Number		1-MW2-GW2A	1-MW2-GW2	1-MW1-GW1
Laboratory Sample ID		9605516-03	9605516-01	9605545-01
Matrix		water	water	water
Date Sampled		5/16/96	5/16/96	5/16/96
Date Analyzed		5/20/96 - 6/8/96	5/20/96 - 6/8/96	5/20/96 - 6/8/96
	* RL			
Gasoline range	0.25	0.25 U	0.25 U	0.25 U
Diesel range, as diesel	0.25	0.25 U	0.25 U	0.35 NJ
Oil range, as oil	1	1 U	1 U	1 U
JP-4	0.25	0.25 U	0.25 U	0.25 U
Units (mg/kg) Soil, (mg/L) Water	mg/L			

* RL - Reporting Limit

Low Level Volatile Organic Compounds						
Site						
Location						
Sample Depth						
Sample Number		TB-F	TB-E	TB-D	TB-C	TB-B
Laboratory Sample ID		9607404-15	9607404-20	9607404-05	9607404-10	9607375-03
Matrix		water	water	water	water	water
Date Sampled		7/10/96	7/10/96	7/10/96	7/10/96	7/9/96
Date Analyzed		7/17/96	7/17/96	7/17/96	7/17/96	7/17/96
	CRQL					
Chloromethane	1	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	1	1 U	1 U.	1 U	1 U	1 U
bromomethane	1	1 U	1 U	1 U	1 U	1 U
Chloroethane	1	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1	1 U	1 U	1 U	1 U	1 U
Acetone	5	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	1	1 U	1 U	1 U	1 U	1 U
Methylene chloride	2	0.26 BJ	0.15 BJ	2 U	2 U	2 U
trans-1,2-Dichloroethene	1	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1	1 U	1 U	1 U	1 U	1 U
2-Butanone	5	5 U	5 U	5 U	5 U	5 U
Bromochloromethane	1	1 U	1 U	1 U	1 U	1 U
Chloroform	1	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	1	1 U	1 U	1 U	1 U	1 U
Benzene	1	1 U	1 U	1 U	1 U	1 U
Trichloroethene	1	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	5	5 U	5 U	5 U	5 U	5 U
Toluene	1	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	1	1 U	1 U	1 U	1 U	1 U
2-Hexanone	5	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	1	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1	1 U	1 U	1 U	1 U	1 U
Styrene	1	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1	1 U	1 U	1 U	1 U	1 U
Bromoform	1	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1	1 U	1 U	1 U	1 U	1 U

Low Level Volatile Organic Compounds						
Site						
Location						
Sample Depth						
Sample Number		TB-F	TB-E	TB-D	TB-C	TB-B
Laboratory Sample ID		9607404-15	9607404-20	9607404-05	9607404-10	9607375-03
Matrix		water	water	water	water	water
Date Sampled		7/10/96	7/10/96	7/10/96	7/10/96	7/9/96
Date Analyzed		7/17/96	7/17/96	7/17/96	7/17/96	7/17/96
	CRQL					
1,2-Dichlorobenzene	1	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1	1 U	1 U	1 U	1 U	1 U
Xylene (total)	1	1 U	1 U	1 U	1 U	1 U
Total TIC concentration		0	0	0	0	0
Units (ug/kg) Soil, (ug/L) Water	ug/L					
Dilution Factor		1	1	1	1	1
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL	25.0 mL	25.0 mL

Low Level Volatile Organic Compounds						
Site			8	8	8	8
Location			MW3	MW3	MW3	MW2A
Sample Depth						
Sample Number		TB-A	8-MW3-GW2DL	8-MW3-GW2	8-MW3-GW2	8-MW2A-GW2
Laboratory Sample ID		9607375-08	9607404-13DL	9607404-13	9607404-13	9607404-18
Matrix		water	water	water	water	water
Date Sampled		7/9/96	7/10/96	7/10/96	7/10/96	7/10/96
Date Analyzed		7/17/96	7/18/96	7/17/96	Composite result	7/17/96
	CRQL					
Chloromethane	1	1 U	20 U	1 U	1 U	0.16 J
Vinyl chloride	1	1 U	20 U	0.26 J	0.26 J	1 U
bromomethane	1	1 U	20 U	1 U	1 U	1 U
Chloroethane	1	1 U	20 U	1 U	1 U	1 U
1,1-Dichloroethene	1	1 U	2.2 J	3.1	3.1	0.41 J
Acetone	5	5 U	R	R	R	R
Carbon disulfide	1	1 U	20 U	1 U	1 U	1 U
Methylene chloride	2	0.27 BJ	40 U	2 U	2 U	2 U
trans-1,2-Dichloroethene	1	1 U	20 U	0.31 J	0.31 J	1 U
1,1-Dichloroethane	1	1 U	9.4 J	12	12	0.23 J
cis-1,2-Dichloroethene	1	1 U	420	360 J	420	2.3
2-Butanone	5	5 U	R	R	R	R
Bromochloromethane	1	1 U	20 U	1 U	1 U	1 U
Chloroform	1	1 U	3 J	3.4	3.4	0.79 J
1,2-Dichloroethane	1	1 U	20 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1	1 U	3.4 J	3.9	3.9	0.58 J
Carbon tetrachloride	1	1 U	20 U	0.33 J	0.33 J	1 U
Benzene	1	1 U	20 U	1 U	1 U	1 U
Trichloroethene	1	0.21 J	25	31 J	25	1
1,2-Dichloropropane	1	1 U	20 U	1 U	1 U	1 U
Bromodichloromethane	1	1 U	20 U	0.16 J	0.16 J	1 U
cis-1,3-Dichloropropene	1	1 U	20 U	1 U	1 U	1 U
4-Methyl-2-pentanone	5	5 U	100 U	5 U	5 U	5 U
Toluene	1	1 U	20 U	1.3	1.3	1.8
trans-1,3-Dichloropropene	1	1 U	20 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	1 U	20 U	1 U	1 U	1 U
Tetrachloroethene	1	1 U	20 U	1 U	1 U	3
2-Hexanone	5	5 U	R	R	R	R
Dibromochloromethane	1	1 U	20 U	1 U	1 U	1 U
1,2-Dibromoethane	1	1 U	20 U	1 U	1 U	1 U
Chlorobenzene	1	1 U	20 U	1 U	1 U	1 U
Ethylbenzene	1	1 U	20 U	1 U	1 U	1 U
Styrene	1	1 U	20 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1	1 U	20 U	1 U	1 U	1 U
Bromoform	1	1 U	20 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1	1 U	20 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1	1 U	2.2 J	0.79 J	0.79 J	0.77 J

Low Level Volatile Organic Compounds						
Site			8	8	8	8
Location			MW3	MW3	MW3	MW2A
Sample Depth						
Sample Number		TB-A	8-MW3-GW2DL	8-MW3-GW2	8-MW3-GW2	8-MW2A-GW2
Laboratory Sample ID		9607375-08	9607404-13DL	9607404-13	9607404-13	9607404-18
Matrix		water	water	water	water	water
Date Sampled		7/9/96	7/10/96	7/10/96	7/10/96	7/10/96
Date Analyzed		7/17/96	7/18/96	7/17/96	Composite result	7/17/96
	CRQL					
1,2-Dichlorobenzene	1	1 U	20 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1	1 U	20 U	1 U	1 U	1 U
Xylene (total)	1	1 U	20 U	1 U	1 U	1 U
Total TIC concentration		0	0	0		0
Units (ug/kg) Soil, (ug/L) Water	ug/L					
Dilution Factor		1	20	1	Composite result	1
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL	25.0 mL	25.0 mL

Low Level Volatile Organic Compounds						
Site		8	8	8	8	7
Location		MW2	MW1	MW1	MW1	MW5
Sample Depth						
Sample Number		8-MW2-GW2	8-MW1-GW2	8-MW1-GW2	8-MW1-GW2	7-MW5-GW2
Laboratory Sample ID		9607404-16	9607404-11DL	9607404-11	9607404-11	9607375-01
Matrix		water	water	water	water	water
Date Sampled		7/10/96	7/10/96	7/10/96	7/10/96	7/9/96
Date Analyzed		7/18/96	7/23/96	7/17/96	Composite result	7/17/96
	CRQL					
Chloromethane	1	1 U	50 U	1 U	1 U	1 U
Vinyl chloride	1	1 U	50 U	1 U	1 U	1 U
bromomethane	1	1 U	50 U	1 U	1 U	1 U
Chloroethane	1	1 U	50 U	1 U	1 U	1 U
1,1-Dichloroethene	1	0.43 J	50 U	1.5	1.5	1 U
Acetone	5	R	R	R	R	R
Carbon disulfide	1	1 U	50 U	1 U	1 U	1 U
Methylene chloride	2	2 U	100 U	2 U	2 U	2 U
trans-1,2-Dichloroethene	1	1 U	50 U	0.15 J	0.15 J	1 U
1,1-Dichloroethane	1	0.24 J	12 J	9.6	9.6	1 U
cis-1,2-Dichloroethene	1	2.6	630	340 J	630	1 U
2-Butanone	5	R	R	R	R	R
Bromochloromethane	1	1 U	50 U	1 U	1 U	1 U
Chloroform	1	0.87 J	50 U	0.95 J	0.95 J	1 U
1,2-Dichloroethane	1	1 U	50 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1	0.68 J	50 U	2.9	2.9	1 U
Carbon tetrachloride	1	1 U	50 U	0.33 J	0.33 J	1 U
Benzene	1	1 U	50 U	1 U	1 U	0.34 J
Trichloroethene	1	1.2	50 U	23	23	1 U
1,2-Dichloropropane	1	1 U	50 U	1 U	1 U	1 U
Bromodichloromethane	1	1 U	50 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1	1 U	50 U	1 U	1 U	1 U
4-Methyl-2-pentanone	5	5 U	250 U	5 U	5 U	5 U
Toluene	1	2.2	50 U	1.6	1.6	0.29 J
trans-1,3-Dichloropropene	1	1 U	50 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	1 U	50 U	0.13 J	0.13 J	1 U
Tetrachloroethene	1	3.3	50 U	2.4	2.4	1 U
2-Hexanone	5	R	R	R	R	R
Dibromochloromethane	1	1 U	50 U	1 U	1 U	1 U
1,2-Dibromoethane	1	1 U	50 U	1 U	1 U	1 U
Chlorobenzene	1	1 U	50 U	0.1 J	0.1 J	1 U
Ethylbenzene	1	1 U	50 U	1 U	1 U	0.3 J
Styrene	1	1 U	50 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1	1 U	50 U	1 U	1 U	1 U
Bromoform	1	1 U	50 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1	1 U	50 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1	0.85 J	50 U	0.98 J	0.98 J	0.41 J

Low Level Volatile Organic Compounds	CRQL					
Site		8	8	8	8	7
Location		MW2	MW1	MW1	MW1	MW5
Sample Depth						
Sample Number		8-MW2-GW2	8-MW1-GW2	8-MW1-GW2	8-MW1-GW2	7-MW5-GW2
Laboratory Sample ID		9607404-16	9607404-11DL	9607404-11	9607404-11	9607375-01
Matrix		water	water	water	water	water
Date Sampled		7/10/96	7/10/96	7/10/96	7/10/96	7/9/96
Date Analyzed		7/18/96	7/23/96	7/17/96	Composite result	7/17/96
1,2-Dichlorobenzene	1	1 U	50 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1	1 U	50 U	1 U	1 U	1 U
Xylene (total)	1	1 U	50 U	1 U	1 U	0.61 J
Total TIC concentration		0	0	0		0
Units (ug/kg) Soil, (ug/L) Water	ug/L					
Dilution Factor		1	50	1	Composite result	1
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL	25.0 mL	25.0 mL

Low Level Volatile Organic Compounds						
Site		7	7	7	6	6
Location		MW2	MW2	MW2	MW3A	MW3
Sample Depth						
Sample Number		7-MW2-GW2DL	7-MW2-GW2	7-MW2-GW2	6-MW3A-GW2	6-MW3-GW2
Laboratory Sample ID		9607375-06DL	9607375-06	9607375-06	9607404-03	9607404-01
Matrix		water	water	water	water	water
Date Sampled		7/9/96	7/9/96	7/9/96	7/10/96	7/10/96
Date Analyzed		7/18/96	7/17/96	Composite result	7/17/96	7/18/96
	CRQL					
Chloromethane	1	2 U	1 U	1 U	1 U	1 U
Vinyl chloride	1	2 U	1 U	1 U	1 U	1 U
bromomethane	1	2 U	1 U	1 U	1 U	1 U
Chloroethane	1	2 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1	2 U	1 U	1 U	1 U	1 U
Acetone	5	R	R	R	R	R
Carbon disulfide	1	2 U	1 U	1 U	1 U	1 U
Methylene chloride	2	4 U	2 U	2 U	2 U	2 U
trans-1,2-Dichloroethene	1	2 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1	2 U	1 U	1 U	0.3 J	0.28 J
cis-1,2-Dichloroethene	1	2 U	1 U	1 U	0.21 J	0.24 J
2-Butanone	5	R	R	R	R	R
Bromochloromethane	1	2 U	1 U	1 U	1 U	1 U
Chloroform	1	2 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1	2 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1	2 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	1	2 U	1 U	1 U	1 U	1 U
Benzene	1	3.4	4.1	4.1	1 U	1 U
Trichloroethene	1	2 U	1 U	1 U	0.28 J	0.34 J
1,2-Dichloropropane	1	2 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1	2 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1	2 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	5	10 U	5 U	5 U	5 U	5 U
Toluene	1	2 U	0.11 J	0.11 J	1.2	0.92 J
trans-1,3-Dichloropropene	1	2 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	2 U	1 U	1 U	1 U	1 U
Tetrachloroethene	1	2 U	1 U	1 U	1 U	1 U
2-Hexanone	5	R	R	R	R	R
Dibromochloromethane	1	2 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1	2 U	1 U	1 U	1 U	1 U
Chlorobenzene	1	2 U	1 U	1 U	1 U	1 U
Ethylbenzene	1	19	25	25	1 U	1 U
Styrene	1	2 U	0.19 J	0.19 J	1 U	1 U
1,1,2,2-Tetrachloroethane	1	2 U	1 U	1 U	1 U	1 U
Bromoform	1	2 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1	2 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1	2 U	0.1 J	0.1 J	1.1	1.1

Low Level Volatile Organic Compounds						
Site		7	7	7	6	6
Location		MW2	MW2	MW2	MW3A	MW3
Sample Depth						
Sample Number		7-MW2-GW2DL	7-MW2-GW2	7-MW2-GW2	6-MW3A-GW2	6-MW3-GW2
Laboratory Sample ID		9607375-06DL	9607375-06	9607375-06	9607404-03	9607404-01
Matrix		water	water	water	water	water
Date Sampled		7/9/96	7/9/96	7/9/96	7/10/96	7/10/96
Date Analyzed		7/18/96	7/17/96	Composite result	7/17/96	7/18/96
	CRQL					
1,2-Dichlorobenzene	1	2 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1	2 U	1 U	1 U	1 U	1 U
Xylene (total)	1	49	65 J	49	1 U	1 U
Total TIC concentration		88	116		0	0
Units (ug/kg) Soil, (ug/L) Water	ug/L					
Dilution Factor		2	1	Composite result	1	1
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL	25.0 mL	25.0 mL

Low Level Volatile Organic Compounds				
Site		6	6	1
Location		MW2	MW1	MW2
Sample Depth				
Sample Number		6-MW2-GW2	6-MW1-GW3	1-MW2-GW3
Laboratory Sample ID		9607404-08	9607404-06	9607375-04
Matrix		water	water	water
Date Sampled		7/10/96	7/10/96	7/9/96
Date Analyzed		7/18/96	7/17/96	7/17/96
	CRQL			
Chloromethane	1	1 U	1 U	1 U
Vinyl chloride	1	1 U	1 U	1 U
bromomethane	1	1 U	1 U	1 U
Chloroethane	1	1 U	1 U	1 U
1,1-Dichloroethene	1	1 U	1 U	1 U
Acetone	5	R	R	R
Carbon disulfide	1	1 U	1 U	1 U
Methylene chloride	2	2 U	2 U	2 U
trans-1,2-Dichloroethene	1	1 U	1 U	1 U
1,1-Dichloroethane	1	0.11 J	0.1 J	1 U
cis-1,2-Dichloroethene	1	1 U	1.1	1 U
2-Butanone	5	R	R	R
Bromochloromethane	1	1 U	1 U	1 U
Chloroform	1	1 U	1 U	1 U
1,2-Dichloroethane	1	1 U	1 U	1 U
1,1,1-Trichloroethane	1	1 U	1 U	1 U
Carbon tetrachloride	1	1 U	1 U	1 U
Benzene	1	1 U	0.36 J	0.14 J
Trichloroethene	1	0.16 J	1 U	1 U
1,2-Dichloropropane	1	1 U	1 U	1 U
Bromodichloromethane	1	1 U	1 U	1 U
cis-1,3-Dichloropropene	1	1 U	1 U	1 U
4-Methyl-2-pentanone	5	5 U	5 U	5 U
Toluene	1	0.26 J	1 U	0.32 J
trans-1,3-Dichloropropene	1	1 U	1 U	1 U
1,1,2-Trichloroethane	1	1 U	0.17 J	1 U
Tetrachloroethene	1	1 U	1 U	1 U
2-Hexanone	5	R	R	R
Dibromochloromethane	1	1 U	1 U	1 U
1,2-Dibromoethane	1	1 U	1 U	1 U
Chlorobenzene	1	1 U	1 U	1 U
Ethylbenzene	1	1 U	9	1 U
Styrene	1	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1	1 U	1 U	1 U
Bromoform	1	1 U	1 U	1 U
1,3-Dichlorobenzene	1	1 U	1 U	1 U
1,4-Dichlorobenzene	1	0.52 J	1 U	0.18 J

Low Level Volatile Organic Compounds				
Site		6	6	1
Location		MW2	MW1	MW2
Sample Depth				
Sample Number		6-MW2-GW2	6-MW1-GW3	1-MW2-GW3
Laboratory Sample ID		9607404-08	9607404-06	9607375-04
Matrix		water	water	water
Date Sampled		7/10/96	7/10/96	7/9/96
Date Analyzed		7/18/96	7/17/96	7/17/96
	CRQL			
1,2-Dichlorobenzene	1	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1	1 U	1 U	1 U
Xylene (total)	1	1 U	10	1 U
Total TIC concentration		0	90	0
Units (ug/kg) Soil, (ug/L) Water	ug/L			
Dilution Factor		1	1	1
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL

Semivolatile Organic Compounds						
Site		8	8	8	8	7
Location		MW3	MW2A	MW2	MW1	MW5
Sample Depth						
Sample Number		8-MW3-GW2	8-MW2A-GW2	8-MW2-GW2	8-MW1-GW2	7-MW5-GW2
Laboratory Sample ID		9607404-13	9607404-18	9607404-16	9607404-11	9607375-01
Matrix		water	water	water	water	water
Date Sampled		7/10/96	7/10/96	7/10/96	7/10/96	7/9/96
Date Analyzed		7/23/96	7/23/96	7/23/96	7/23/96	7/22/96
	CRQL					
bis(2-Chloroethyl)ether	10	10 U	10 U	10 U	10 U	10 U
Phenol	10	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
2,2'- oxybis(1-chloropropane)	10	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10	10 U	10 U	10 U	10 U	1 J
Hexachloroethane	10	10 U	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	10	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10	10 U	10 U	10 U	10 U	10 U
Isophorone	10	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	10	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
Naphthalene	10	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	10	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25	25 U	25 U	25 U	25 U	25 U
2-Chloronaphthalene	10	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25	25 U	25 U	25 U	25 U	25 U
Acenaphthylene	10	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10	10 U	10 U	10 U	10 U	10 U
Acenaphthene	10	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	25	25 U	25 U	25 U	25 U	25 U
2,4-Dinitrophenol	25	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	25	25 U	25 U	25 U	25 U	25 U

Semivolatile Organic Compounds						
Site		8	8	8	8	7
Location		MW3	MW2A	MW2	MW1	MW5
Sample Depth						
Sample Number		8-MW3-GW2	8-MW2A-GW2	8-MW2-GW2	8-MW1-GW2	7-MW5-GW2
Laboratory Sample ID		9607404-13	9607404-18	9607404-16	9607404-11	9607375-01
Matrix		water	water	water	water	water
Date Sampled		7/10/96	7/10/96	7/10/96	7/10/96	7/9/96
Date Analyzed		7/23/96	7/23/96	7/23/96	7/23/96	7/22/96
	CRQL					
Fluorene	10	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether	10	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	25	25 U	25 U	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25	25 U	25 U	25 U	25 U	25 U
n-Nitrosodiphenylamine	10	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	10	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10	10 U	10 U	10 U	10 U	10 U
Anthracene	10	10 U	10 U	10 U	10 U	10 U
Carbazole	10	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10	10 U	10 U	10 U	10 U	10 U
Pyrene	10	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10	10 U	10 U	10 U	10 U	10 U
Benzo[a]anthracene	10	10 U	10 U	10 U	10 U	10 U
Chrysene	10	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	10	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	10	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	10	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	10	10 U	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	10	10 U	10 U	10 U	10 U	10 U
Benzo[g,h,i]perylene	10	10 U	10 U	10 U	10 U	10 U
Total TIC concentration		2	80	82	45	193
Units (mg/kg) Soil, (ug/L) Water	ug/L					
Dilution Factor		1	1	1	1	1
Sample Weight/Volume		1000 mL	1000 mL	1000 mL	1000 mL	1000 mL

Semivolatile Organic Compounds						
Site		7	6	6	6	6
Location		MW2	MW3A	MW3	MW2	MW1
Sample Depth						
Sample Number		7-MW2-GW2	6-MW3A-GW2	6-MW3-GW2	6-MW2-GW2	6-MW1-GW3
Laboratory Sample ID		9607375-06	9607404-03	9607404-01	9607404-08	9607404-06
Matrix		water	water	water	water	water
Date Sampled		7/9/96	7/10/96	7/10/96	7/10/96	7/10/96
Date Analyzed		7/22/96	7/22/96	7/22/96	7/23/96	7/22/96
	CRQL					
bis(2-Chloroethyl)ether	10	10 U	10 U	10 U	10 U	10 U
Phenol	10	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
2,2'- oxybis(1-chloropropane)	10	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10	1 J	10 U	10 U	10 U	10 U
Hexachloroethane	10	10 U	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	10	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10	10 U	10 U	10 U	10 U	10 U
Isophorone	10	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	10	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
Naphthalene	10	10 U	10 U	10 U	10 U	1 J
4-Chloroaniline	10	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25	25 U	25 U	25 U	25 U	25 U
2-Chloronaphthalene	10	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25	25 U	25 U	25 U	25 U	25 U
Acenaphthylene	10	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10	10 U	10 U	10 U	10 U	10 U
Acenaphthene	10	10 U	10 U	10 U	10 U	1 J
3-Nitroaniline	25	25 U	25 U	25 U	25 U	25 U
2,4-Dinitrophenol	25	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10	10 U	10 U	10 U	10 U	1 J
2,4-Dinitrotoluene	10	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	25	25 U	25 U	25 U	25 U	25 U

Semivolatile Organic Compounds						
Site		7	6	6	6	6
Location		MW2	MW3A	MW3	MW2	MW1
Sample Depth						
Sample Number		7-MW2-GW2	6-MW3A-GW2	6-MW3-GW2	6-MW2-GW2	6-MW1-GW3
Laboratory Sample ID		9607375-06	9607404-03	9607404-01	9607404-08	9607404-06
Matrix		water	water	water	water	water
Date Sampled		7/9/96	7/10/96	7/10/96	7/10/96	7/10/96
Date Analyzed		7/22/96	7/22/96	7/22/96	7/23/96	7/22/96
	CRQL					
Fluorene	10	10 U	10 U	10 U	10 U	1 J
4-Chlorophenyl-phenylether	10	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	25	25 U	25 U	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25	25 U	25 U	25 U	25 U	25 U
n-Nitrosodiphenylamine	10	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	10	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10	10 U	10 U	10 U	10 U	1 J
Anthracene	10	10 U	10 U	10 U	10 U	1 J
Carbazole	10	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10	1 J	10 U	1 J	10 U	10 U
Fluoranthene	10	10 U	10 U	10 U	10 U	1 J
Pyrene	10	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10	10 U	10 U	10 U	10 U	10 U
Benzo[a]anthracene	10	10 U	10 U	10 U	10 U	10 U
Chrysene	10	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	10	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	10	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	10	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	10	10 U	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	10	10 U	10 U	10 U	10 U	10 U
Benzo[g,h,i]perylene	10	10 U	10 U	10 U	10 U	10 U
Total TIC concentration		154	830	395	37	1900
Units (mg/kg) Soil, (ug/L) Water	ug/L					
Dilution Factor		1	1	1	1	1
Sample Weight/Volume		1000 mL	1000 mL	1000 mL	1000 mL	1000 mL

Semivolatile Organic Compounds	CRQL	
Site		1
Location		MW2
Sample Depth		
Sample Number		1-MW2-GW3
Laboratory Sample ID		9607375-04
Matrix		water
Date Sampled		7/9/96
Date Analyzed		7/22/96
bis(2-Chloroethyl)ether	10	10 U
Phenol	10	10 U
2-Chlorophenol	10	10 U
1,3-Dichlorobenzene	10	10 U
1,4-Dichlorobenzene	10	10 U
1,2-Dichlorobenzene	10	10 U
2,2'- oxybis(1-chloropropane)	10	10 U
2-Methylphenol	10	10 U
Hexachloroethane	10	10 U
N-Nitroso-di-n-propylamine	10	10 U
4-Methylphenol	10	10 U
Nitrobenzene	10	10 U
Isophorone	10	10 U
2-Nitrophenol	10	10 U
2,4-Dimethylphenol	10	10 U
bis(2-Chloroethoxy)methane	10	10 U
2,4-Dichlorophenol	10	10 U
1,2,4-Trichlorobenzene	10	10 U
Naphthalene	10	10 U
4-Chloroaniline	10	10 U
Hexachlorobutadiene	10	10 U
4-Chloro-3-methylphenol	10	10 U
2-Methylnaphthalene	10	10 U
Hexachlorocyclopentadiene	10	10 U
2,4,6-Trichlorophenol	10	10 U
2,4,5-Trichlorophenol	25	25 U
2-Chloronaphthalene	10	10 U
2-Nitroaniline	25	25 U
Acenaphthylene	10	10 U
Dimethylphthalate	10	10 U
2,6-Dinitrotoluene	10	10 U
Acenaphthene	10	10 U
3-Nitroaniline	25	25 U
2,4-Dinitrophenol	25	25 U
Dibenzofuran	10	10 U
2,4-Dinitrotoluene	10	10 U
4-Nitrophenol	25	25 U

Semivolatile Organic Compounds

Site		1
Location		MW2
Sample Depth		
Sample Number		1-MW2-GW3
Laboratory Sample ID		9607375-04
Matrix		water
Date Sampled		7/9/96
Date Analyzed		7/22/96
	CRQL	
Fluorene	10	10 U
4-Chlorophenyl-phenylether	10	10 U
Diethylphthalate	10	1 J
4-Nitroaniline	25	25 U
4,6-Dinitro-2-methylphenol	25	25 U
n-Nitrosodiphenylamine	10	10 U
4-Bromophenyl-phenylether	10	10 U
Hexachlorobenzene	10	10 U
Pentachlorophenol	25	25 U
Phenanthrene	10	10 U
Anthracene	10	10 U
Carbazole	10	10 U
Di-n-butylphthalate	10	10 U
Fluoranthene	10	10 U
Pyrene	10	10 U
Butylbenzylphthalate	10	10 U
3,3'-Dichlorobenzidine	10	10 U
Benzo[a]anthracene	10	10 U
Chrysene	10	10 U
bis(2-Ethylhexyl)phthalate	10	10 U
Di-n-octylphthalate	10	10 U
Benzo[b]fluoranthene	10	10 U
Benzo[k]fluoranthene	10	10 U
Benzo[a]pyrene	10	10 U
Indeno[1,2,3-cd]pyrene	10	10 U
Dibenz[a,h]anthracene	10	10 U
Benzo[g,h,i]perylene	10	10 U
Total TIC concentration		13
Units (mg/kg) Soil, (ug/L) Water	ug/L	
Dilution Factor		1
Sample Weight/Volume		1000 mL

Inorganics	CRDL					
Site		8	8	8	8	8
Location		MW3	MW3	MW2A	MW2A	MW2
Sample Depth						
Sample Number		8-MW3-GW2 (Diss.)	8-MW3-GW2	8-MW2A-GW2 (Diss.)	8-MW2A-GW2	8-MW2-GW2 (Diss.)
Laboratory Sample ID		9607404-14	9607404-13	9607404-19	9607404-18	9607404-17
Matrix		water	water	water	water	water
Date Sampled		7/10/96	7/10/96	7/10/96	7/10/96	7/10/96
Date Analyzed		7/17-24/96	7/19-27/96	7/17-24/96	7/19-27/96	7/17-24/96
Antimony	* 6	5 U	5 U	5 U	5 U	5 U
Arsenic	10	1 J	1.1 UJ	1.1 J	2 UJ	1 U
Barium	200	123 J	137 J	54.2 J	118 J	52.9 J
Beryllium	* 4	0.3 J	0.3 J	0.3 J	0.7 J	0.3 J
Cadmium	5	2 U	2 U	2 U	2 U	2 U
Chromium	10	6 U	7.4 J	6 U	6 U	6 U
Copper	25	4 U	4 U	4 U	4 U	4 U
Lead	3	1 U	1 U	1 U	2.6 J	1 U
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	5 U	5 U	5 U	5 U	5 U
Selenium	5	1 U	1 UJ	1 U	1 UJ	1 U
Silver	10	3 U	3 U	3 U	3 U	3 U
Thallium	* 2	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
Zinc	20	25.1	20.8 U	7.2 J	22.7	3.8 J
Units (mg/kg) Soil, (ug/L) Water	ug/L					

* Project-specific CRDL

Inorganics						
Site		8	8	8	7	7
Location		MW2	MW1	MW1	MW5	MW5
Sample Depth						
Sample Number		8-MW2-GW2	8-MW1-GW2 (Diss.)	8-MW1-GW2	7-MW5-GW2 (Diss.)	7-MW5-GW2
Laboratory Sample ID		9607404-16	9607404-12	9607404-11	9607375-02	9607375-01
Matrix		water	water	water	water	water
Date Sampled		7/10/96	7/10/96	7/10/96	7/9/96	7/9/96
Date Analyzed		7/19-27/96	7/17-24/96	7/19-27/96	7/17-24/96	7/19-27/96
	CRDL					
Antimony	* 6	5 U	5 U	5 U	5 U	5 U
Arsenic	10	2 UJ	1 U	1.1 UJ	1 UJ	1.8 UJ
Barium	200	134 J	36.9 J	149 J	152 J	222
Beryllium	* 4	0.8 J	0.3 J	1.3 J	0.3 U	1.1 J
Cadmium	5	2 U	2 U	2 U	2 U	2 U
Chromium	10	12.7	6 U	7.8 J	6 U	10.6
Copper	25	5.2 J	4 U	6.5 J	4 U	8.7 J
Lead	3	3.2	1 U	9.1	1 U	4
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	5 U	5 U	10.9 J	5 U	6.1 J
Selenium	5	1 UJ	1 U	1 ~~UNW~~ J	1 U	1 UJ
Silver	10	3 U	3 U	3 U	3 U	3 U
Thallium	* 2	2 UJ	2 U	2 U	2 UJ	2 U
Zinc	20	27.6	4.1 J	49.8	5 J	40.7
Units (mg/kg) Soil, (ug/L) Water	ug/L					

* Project-specific CRDL

Inorganics						
Site		7	7	6	6	6
Location		MW2	MW2	MW3A	MW3A	MW3
Sample Depth						
Sample Number		7-MW2-GW2 (Diss.)	7-MW2-GW2	6-MW3A-GW2 (Diss.)	6-MW3A-GW2	6-MW3-GW2 (Dissolved)
Laboratory Sample ID		9607375-07	9607375-06	9607404-04	9607404-03	9607404-02
Matrix		water	water	water	water	water
Date Sampled		7/9/96	7/9/96	7/10/96	7/10/96	7/10/96
Date Analyzed		7/17-24/96	7/19-27/96	7/17-24/96	7/19-27/96	7/17-24/96
	CRDL					
Antimony	* 6	5 U	5 U	5 U	5 U	5 U
Arsenic	10	1 UJ	1 UJ	1 U	2.2 UJ	1 U
Barium	200	108 J	118 J	252	366	260
Beryllium	* 4	0.3 J	0.3 J	0.3 U	0.6 J	0.3 J
Cadmium	5	2 U	2 U	2 U	2 U	2 U
Chromium	10	6 U	7 J	6 U	8.3 J	6 U
Copper	25	4 U	4 U	4 U	13.9 J	4 U
Lead	3	1 U	1.2 J	1 U	3.5	1 U
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	5 U	5 U	5.7 J	18.1 J	5 U
Selenium	5	1 U	1 U	1 U	1 UJ	1 U
Silver	10	3 U	3 U	3 U	3 U	3 U
Thallium	* 2	2 U	2 UJ	2 U	2 U	2 UJ
Zinc	20	9.1 J	18.8 U	6.8 J	33.3	5.6 J
Units (mg/kg) Soil, (ug/L) Water	ug/L					

* Project-specific CRDL

Inorganics						
Site		6	6	6	6	6
Location		MW3	MW2	MW2	MW1	MW1
Sample Depth						
Sample Number		6-MW3-GW2	6-MW2-GW2 (Diss.)	6-MW2-GW2	6-MW1-GW3 (Diss.)	6-MW1-GW3
Laboratory Sample ID		9607404-01	9607404-09	9607404-08	9607404-07	9607404-06
Matrix		water	water	water	water	water
Date Sampled		7/10/96	7/10/96	7/10/96	7/10/96	7/10/96
Date Analyzed		7/19-27/96	7/17-24/96	7/19-27/96	7/17-24/96	7/19-27/96
	CRDL					
Antimony	* 6	5 U	5 U	5 U	5 U	5 U
Arsenic	10	1 UJ	1 UJ	3.6 UJ	1.2 J	1.3 UJ
Barium	200	328	99.9 J	154 J	152 J	194 J
Beryllium	* 4	0.5 J	0.3 J	0.7 J	0.3 J	0.5 J
Cadmium	5	2 U	2 U	2 U	2 U	2 U
Chromium	10	8.9 J	6 U	11.1	6 U	6 U
Copper	25	11.1 J	4 U	5.4 J	4 U	4 U
Lead	3	3.6	1 U	4.3	1 U	2.2 J
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	10.3 J	5 U	15.7 J	5 U	5 U
Selenium	5	1 UJ	1 U	1 UJ	1 U	1 UJ
Silver	10	3 U	3 U	3 U	3 U	3 U
Thallium	* 2	2 U	2 UJ	2 UJ	2 U	2 U
Zinc	20	26.9	8 J	42.7	6.5 J	15.3 U
Units (mg/kg) Soil, (ug/L) Water	ug/L					

* Project-specific CRDL

Inorganics	CRDL		
Site		1	1
Location		MW2	MW2
Sample Depth			
Sample Number		1-MW2-GW3 (Diss.)	1-MW2-GW3
Laboratory Sample ID		9607375-05	9607375-04
Matrix		water	water
Date Sampled		7/9/96	7/9/96
Date Analyzed		7/17-24/96	7/19-27/96
Antimony	* 6	5 U	5 U
Arsenic	10	1 U	1 U
Barium	200	86.9 J	139 J
Beryllium	* 4	0.3 J	0.5 J
Cadmium	5	2 U	2 U
Chromium	10	6 U	13.2
Copper	25	4 U	4 U
Lead	3	1 U	1.9 J
Mercury	0.2	0.2 U	0.2 U
Nickel	40	5 U	6 J
Selenium	5	4.4 J	3.3 UJ
Silver	10	3 U	3 U
Thallium	* 2	2 UJ	2 UJ
Zinc	20	33.6	83.4 J
Units (mg/kg) Soil, (ug/L) Water	ug/L		

* Project-specific CRDL

JP4, Gas, Diesel, Oil						
Site		8	8	8	8	7
Location		MW3	MW2A	MW2	MW1	MW5
Sample Depth						
Sample Number		8-MW3-GW2	8-MW2A-GW2	8-MW2-GW2	8-MW1-GW2	7-MW5-GW2
Laboratory Sample ID		9607404-13	9607404-18	9607404-16	9607404-11	9607375-01
Matrix		water	water	water	water	water
Date Sampled		7/10/96	7/10/96	7/10/96	7/10/96	7/9/96
Date Analyzed		7/17-24/96	7/18-24/96	7/17-24/96	7/17-24/96	7/17-25/96
	* RL					
Gasoline range	0.25	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Diesel range, as diesel	0.25	0.26 NJ	0.25 U	0.25 U	0.25 U	0.25 NJ
Oil range, as oil	1	1 U	1 U	1 U	1 U	1 U
JP-4	0.25	0.25 UJ	0.25 U	0.25 U	0.25 U	0.25 U
Units (mg/kg) Soil, (mg/L) Water	mg/L					
* RL - Reporting Limit						

JP4, Gas, Diesel, Oil

Site		7	6	6	6	6
Location		MW2	MW3A	MW3	MW2	MW1
Sample Depth						
Sample Number		7-MW2-GW2	6-MW3A-GW2	6-MW3-GW2	6-MW2-GW2	6-MW1-GW3
Laboratory Sample ID		9607375-06	9607404-03	9607404-01	9607404-08	9607404-06
Matrix		water	water	water	water	water
Date Sampled		7/9/96	7/10/96	7/10/96	7/10/96	7/10/96
Date Analyzed		7/17-24/96	7/17-24/96	7/17-24/96	7/17-24/96	7/17-24/96
	* RL					
Gasoline range	0.25	0.68	0.25 U	0.25 U	0.25 U	0.97
Diesel range, as diesel	0.25	0.25 U	3.7 NJ	1.2 NJ	0.25 U	1.8 NJ
Oil range, as oil	1	1 U	1 U	1 U	1 U	1 U
JP-4	0.25	0.25 U	3.3 NJ	1 NJ	0.25 U	1.7 NJ
Units (mg/kg) Soil, (mg/L) Water	mg/L					

* RL - Reporting Limit

JP4, Gas, Diesel, Oil

	* RL	
Site		1
Location		MW2
Sample Depth		
Sample Number		1-MW2-GW3
Laboratory Sample ID		9607375-04
Matrix		water
Date Sampled		7/9/96
Date Analyzed		7/17-24/96
Gasoline range	0.25	0.25 U
Diesel range, as diesel	0.25	0.25 U
Oil range, as oil	1	1 U
JP-4	0.25	0.25 U
Units (mg/kg) Soil, (mg/L) Water	mg/L	

* RL - Reporting Limit

Volatile Organic Compounds					
Site			MANG	MANG	MANG
Location			SS3	SS2	SS1
Sample Depth			0-1	0-1	0-1
Sample Number		TB-K	MANG-SS3-0'-1'	MANG-SS2-0'-1'	MANG-SS1-0'-1'
Laboratory Sample ID		9607475-08	9607475-03	9607475-02	9607475-01
Matrix		water	soil	soil	soil
Date Sampled		7/12/96	7/11/96	7/11/96	7/11/96
Date Analyzed		7/19/96	7/19/96	7/19/96	7/19/96
	CRQL				
Chloromethane	10	10 U	11 UJ	11 UJ	11 UJ
Vinyl Chloride	10	10 U	11 UJ	11 UJ	11 UJ
Bromomethane	10	10 U	11 UJ	11 UJ	11 UJ
Chloroethane	10	10 U	11 UJ	11 UJ	11 UJ
1,1-Dichloroethene	10	10 U	11 UJ	11 UJ	11 UJ
Acetone	10	10	11 UJ	11 UJ	11 UJ
Carbon Disulfide	10	10 U	1 J	11 UJ	11 UJ
Methylene Chloride	10	10 U	3 J	3 J	3 J
1,1-Dichloroethane	10	10 U	11 UJ	11 UJ	11 UJ
2-Butanone	10	10 U	11 UJ	11 UJ	11 UJ
Chloroform	10	10 U	11 UJ	11 UJ	11 UJ
1,1,1-Trichloroethane	10	10 U	11 UJ	11 UJ	11 UJ
Carbon Tetrachloride	10	10 U	11 UJ	11 UJ	11 UJ
Benzene	10	10 U	11 UJ	11 UJ	11 UJ
1,2-Dichloroethane	10	10 U	11 UJ	11 UJ	11 UJ
Trichloroethene	10	10 U	11 UJ	11 UJ	11 UJ
1,2-Dichloropropane	10	10 U	11 UJ	11 UJ	11 UJ
Bromodichloromethane	10	10 U	11 UJ	11 UJ	11 UJ
cis-1,3-Dichloropropene	10	10 U	11 UJ	11 UJ	11 UJ
4-Methyl-2-Pentanone	10	10 U	11 UJ	5 J	11 UJ
Toluene	10	10 U	11 UJ	11 UJ	11 UJ
trans-1,3-Dichloropropene	10	10 U	11 UJ	11 UJ	11 UJ
1,1,2-Trichloroethane	10	10 U	11 UJ	11 UJ	11 UJ
Tetrachloroethene	10	10 U	11 UJ	11 UJ	11 UJ
2-Hexanone	10	10 U	8 J	6 J	2 J
Dibromochloromethane	10	10 U	11 UJ	11 UJ	11 UJ
Chlorobenzene	10	10 U	11 UJ	11 UJ	11 UJ
Ethylbenzene	10	10 U	11 UJ	11 UJ	11 UJ
Styrene	10	10 U	11 UJ	11 UJ	11 UJ
Bromoform	10	10 U	11 UJ	11 UJ	11 UJ
1,1,2,2-Tetrachloroethane	10	10 U	11 UJ	11 UJ	11 UJ
1,2-Dichloroethene (total)	10	10 U	11 UJ	11 UJ	11 UJ
Xylene (total)	10	10 U	11 UJ	11 UJ	11 UJ
Total TIC concentration		0	0	0	0
Units (ug/kg) Soil, (ug/L) Water					
Dilution Factor		1	1	1	1
Sample Weight/Volume		5.0 mL	5.0 g	5.0 g	5.0 g
% Moisture		100	7	12	6

Semivolatile Organic Compounds				
Site		MANG	MANG	MANG
Location		SS3	SS2	SS1
Sample Depth		0-1	0-1	0-1
Sample Number		MANG-SS3-0'-1'	MANG-SS2-0'-1'	MANG-SS1-0'-1'
Laboratory Sample ID		9607475-03	9607475-02	9607475-01
Matrix		soil	soil	soil
Date Sampled		7/11/96	7/11/96	7/11/96
Date Analyzed		7/24/96	7/24/96	7/24/96
	CRQL			
bis(2-Chloroethyl)ether	10000	11000 U	11000 U	11000 U
Phenol	10000	11000 U	11000 U	11000 U
2-Chlorophenol	10000	11000 U	11000 U	11000 U
1,3-Dichlorobenzene	10000	11000 U	11000 U	11000 U
1,4-Dichlorobenzene	10000	11000 U	11000 U	11000 U
1,2-Dichlorobenzene	10000	11000 U	11000 U	11000 U
2,2'-oxybis(1-chloropropane)	10000	11000 U	11000 U	11000 U
2-Methylphenol	10000	11000 U	11000 U	11000 U
Hexachloroethane	20000	22000 U	23000 U	21000 U
N-Nitroso-di-n-propylamine	10000	11000 U	11000 U	11000 U
4-Methylphenol	10000	11000 U	11000 U	11000 U
Nitrobenzene	10000	11000 U	11000 U	11000 U
Isophorone	10000	11000 U	11000 U	11000 U
2-Nitrophenol	10000	11000 U	11000 U	11000 U
2,4-Dimethylphenol	10000	11000 U	11000 U	11000 U
bis(2-Chloroethoxy)methane	10000	11000 U	11000 U	11000 U
2,4-Dichlorophenol	20000	22000 U	23000 U	21000 U
1,2,4-Trichlorobenzene	10000	11000 U	11000 U	11000 U
Naphthalene	10000	11000 U	11000 U	11000 U
4-Chloroaniline	10000	11000 U	11000 U	11000 U
Hexachlorobutadiene	10000	11000 U	11000 U	11000 U
4-Chloro-3-methylphenol	20000	22000 U	23000 U	21000 U
2-Methylnaphthalene	10000	11000 U	11000 U	11000 U
Hexachlorocyclopentadiene	20000	22000 U	23000 U	21000 U
2,4,6-Trichlorophenol	20000	22000 U	23000 U	21000 U
2,4,5-Trichlorophenol	20000	22000 U	23000 U	21000 U
2-Chloronaphthalene	10000	11000 U	11000 U	11000 U
2-Nitroaniline	20000	22000 U	23000 U	21000 U
Acenaphthylene	10000	11000 U	11000 U	11000 U
Dimethylphthalate	10000	11000 U	11000 U	11000 U
2,6-Dinitrotoluene	20000	22000 U	23000 U	21000 U
Acenaphthene	10000	11000 U	11000 U	11000 U
3-Nitroaniline	50000	54000 U	57000 U	53000 U
2,4-Dinitrophenol	110000	110000 U	110000 U	110000 U
Dibenzofuran	1000	1100 U	1100 U	1100 U
2,4-Dinitrotoluene	20000	22000 U	23000 U	21000 U
4-Nitrophenol	110000	110000 U	110000 U	110000 U

Semivolatile Organic Compounds

	CRQL			
Site		MANG	MANG	MANG
Location		SS3	SS2	SS1
Sample Depth		0-1	0-1	0-1
Sample Number		MANG-SS3-0'-1'	MANG-SS2-0'-1'	MANG-SS1-0'-1'
Laboratory Sample ID		9607475-03	9607475-02	9607475-01
Matrix		soil	soil	soil
Date Sampled		7/11/96	7/11/96	7/11/96
Date Analyzed		7/24/96	7/24/96	7/24/96
Fluorene	10000	11000 U	11000 U	11000 U
4-Chlorophenyl-phenylether	10000	11000 U	11000 U	11000 U
Diethylphthalate	10000	11000 U	11000 U	11000 U
4-Nitroaniline	20000	22000 U	23000 U	21000 U
4,6-Dinitro-2-methylphenol	110000	110000 U	110000 U	110000 U
n-Nitrosodiphenylamine	10000	11000 U	11000 U	11000 U
4-Bromophenyl-phenylether	20000	22000 U	23000 U	21000 U
Hexachlorobenzene	20000	22000 U	23000 U	21000 U
Pentachlorophenol	110000	110000 U	110000 U	110000 U
Phenanthrene	10000	11000 U	11000 U	11000 U
Anthracene	10000	11000 U	11000 U	11000 U
Carbazole	10000	11000 U	11000 U	11000 U
Di-n-butylphthalate	10000	11000 U	11000 U	130 J
Fluoranthene	10000	11000 U	220 J	190 J
Pyrene	10000	130 J	280 J	490 J
Butylbenzylphthalate	10000	11000 U	11000 U	11000 U
3,3'-Dichlorobenzidine	110000	110000 U	110000 U	110000 U
Benzo[a]anthracene	10000	11000 U	11000 U	11000 U
Chrysene	10000	240 J	11000 U	490 J
bis(2-Ethylhexyl)phthalate	10000	11000 U	11000 U	11000 U
Di-n-octylphthalate	10000	11000 UJ	11000 UJ	11000 UJ
Benzo[b]fluoranthene	10000	170 J	660 J	540 J
Benzo[k]fluoranthene	10000	170 J	660 J	540 J
Benzo[a]pyrene	10000	11000 U	380 J	11000 U
Indeno[1,2,3-cd]pyrene	10000	11000 U	11000 U	110 J
Dibenz[a,h]anthracene	10000	11000 U	11000 U	11000 U
Benzo[g,h,i]perylene	10000	11000 U	620 J	340 J
Total TIC concentration		0	4600	6100
Units (ug/kg) Soil, (ug/L) Water	ug/kg			
Dilution Factor		1	1	1
Sample Weight/Volume		1.0 g	1.0 g	1.0 g
% Moisture		7	12	6

Inorganics	CRDL			
Site		MANG	MANG	MANG
Location		SS3	SS2	SS1
Sample Depth		0-1	0-1	0-1
Sample Number		MANG-SS3-0'-1'	MANG-SS2-0'-1'	MANG-SS1-0'-1'
Laboratory Sample ID		9607475-03	9607475-02	9607475-01
Matrix		soil	soil	soil
Date Sampled		7/11/96	7/11/96	7/11/96
Date Analyzed		7/23/96 - 8/1/96	7/23/96 - 8/1/96	7/23/96 - 8/1/96
Antimony	* 6	0.87 UJ	1.1 J	0.83 J
Arsenic	10	6.8 J	7.6 J	6 J
Barium	200	276 J	458 J	370 J
Beryllium	* 4	0.49 J	0.66 J	0.55 J
Cadmium	5	2.1	11.9	4.3
Chromium	10	19.1 J	80.5 J	83.1 J
Copper	25	26.3	63.4	38.9
Lead	3	327	758	173
Mercury	0.2	0.1 U	0.1 U	0.08 U
Nickel	40	12.8	24.5	14.2
Selenium	5	0.17 UJ	0.38 UJ	0.32 U
Silver	10	0.56 U	1.6 J	0.49 U
Thallium	* 2	0.35 UJ	0.38 U	0.32 U
Zinc	20	184	368	235
Units (mg/kg) Soil, (ug/L) Water				
% Solids		94.3	88	93.1

* Project-specific CRDL

JP4, Gas, Diesel, Oil

Site		MANG	MANG	MANG
Location		SS3	SS2	SS1
Sample Depth		0-1	0-1	0-1
Sample Number		MANG-SS3-0'-1'	MANG-SS2-0'-1'	MANG-SS1-0'-1'
Laboratory Sample ID		9607475-03	9607475-02	9607475-01
Matrix		soil	soil	soil
Date Sampled		7/11/96	7/11/96	7/11/96
Date Analyzed		7/19-25/96	7/19-25/96	7/19-25/96
	* RL			
Gasoline range	5	5.4 UJ	5.7 UJ	5.3 UJ
JP-4	25	27 U	28 U	27 U
Diesel range, as diesel	25	680 NJ	1100 NJ	900 NJ
Oil range, as oil	100	1300 NJ	5500 NJ	3700 NJ
Units (mg/kg) Soil, (mg/L) Water	mg/kg			
% Moisture		6	12	7
* RL - Reporting Limit				

Low Level Volatile Organic Compounds						
Site						
Location						
Sample Depth						
Sample Number		TB-J	TB-I	TB-H	TB-G	PADW-1
Laboratory Sample ID		9607477-05	9607483-03	9607488-05	9607481-03	9607483-02
Matrix		water	water	water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed		7/18/96	7/18/96	7/18/96	7/18/96	7/23/96
	CRQL					
Chloromethane	1	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	1	1 U	1 U	1 U	1 U	1 U
Bromomethane	1	1 U	1 U	1 U	1 U	1 U
Chloroethane	1	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1	1 U	1 U	1 U	1 U	1 U
Acetone	5	5 U	5.5	5 U	6.7	20
Carbon disulfide	1	1 U	1 U	1 U	1 U	1 U
Methylene chloride	2	1.1 J	0.44 J	0.37 J	0.57 J	2 U
trans-1,2-Dichloroethene	1	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	1	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1	1 U	1 U	1 U	1 U	2.2
2-Butanone	5	5 U	0.23 J	5 U	5 U	5 U
Bromochloromethane	1	1 U	1 U	1 U	1 U	1 U
Chloroform	1	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	1	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	1	1 U	1 U	1 U	1 U	1 U
Benzene	1	1 U	1 U	1 U	1 U	0.36 J
Trichloroethene	1	1 U	1 U	1 U	1 U	0.15 J
1,2-Dichloropropane	1	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	1	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	5	5 U	5 U	5 U	5 U	5 U
Toluene	1	0.13 J	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	1	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	1	1 U	1 U	1 U	1 U	1 U
2-Hexanone	5	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	1	1 U	1 U	1 U	1 U	1 U
1,2-Dibromoethane	1	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	1	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1	1 U	1 U	1 U	1 U	0.11 J
Styrene	1	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	1	1 U	1 U	1 U	1 U	1 U
Bromoform	1	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	1	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	1	1 U	1 U	1 U	1 U	1 U

Low Level Volatile Organic Compounds	CRQL					
Site						
Location						
Sample Depth						
Sample Number		TB-J	TB-I	TB-H	TB-G	PADW-1
Laboratory Sample ID		9607477-05	9607483-03	9607488-05	9607481-03	9607483-02
Matrix		water	water	water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed		7/18/96	7/18/96	7/18/96	7/18/96	7/23/96
1,2-Dichlorobenzene	1	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	1	1 U	1 U	1 U	1 U	1 U
Xylene (total)	1	1 U	1 U	1 U	1 U	0.19 J
Total TIC concentration		0	0	0	0	0
Units (ug/kg) Soil, (ug/L) Water	ug/L					
Dilution Factor		1	1	1	1	1
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL	25.0 mL	25.0 mL

Low Level Volatile Organic Compounds	CRQL					
Site						8
Location						MW4
Sample Depth						
Sample Number		FB-PW-GW2	FB-DI-GW2	DCPW-1DL	DCPW-1	8-MW4-GW2DL
Laboratory Sample ID		9607481-02	9607481-01	9607483-01DL	9607483-01	9607477-01DL
Matrix		water	water	water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed		7/18/96	7/18/96	7/23/96	7/23/96	7/23/96
Chloromethane	1	1 U	1 U	100 U	20 U	20 UJ
Vinyl chloride	1	1 U	1 U	100 U	20 U	20 UJ
Bromomethane	1	1 U	1 U	100 U	20 U	20 UJ
Chloroethane	1	1 U	1 U	100 U	20 U	20 UJ
1,1-Dichloroethene	1	1 U	1 U	100 U	20 U	20 UJ
Acetone	5	3.7 J	5 U	8300 D	6600 E	R
Carbon disulfide	1	0.44 J	1 U	100 U	20 U	20 UJ
Methylene chloride	2	0.59 J	2 U	45 JBD	4.8 BJ	40 UJ
trans-1,2-Dichloroethene	1	1 U	1 U	100 U	20 U	20 UJ
1,1-Dichloroethane	1	1 U	1 U	100 U	20 U	4.2 J
cis-1,2-Dichloroethene	1	1 U	1 U	100 U	20 U	220 J
2-Butanone	5	5 U	5 U	500 U	100 U	R
Bromochloromethane	1	1 U	1 U	100 U	20 U	20 UJ
Chloroform	1	4.9	1 U	100 U	20 U	20 UJ
1,2-Dichloroethane	1	1 U	1 U	100 U	20 U	20 UJ
1,1,1-Trichloroethane	1	1 U	1 U	100 U	20 U	20 UJ
Carbon tetrachloride	1	1 U	1 U	100 U	20 U	20 UJ
Benzene	1	1 U	1 U	100 U	20 U	20 UJ
Trichloroethene	1	1 U	1 U	100 U	20 U	7.4 J
1,2-Dichloropropane	1	1 U	1 U	100 U	20 U	20 UJ
Bromodichloromethane	1	0.66 J	1 U	100 U	20 U	20 UJ
cis-1,3-Dichloropropene	1	1 U	1 U	100 U	20 U	20 UJ
4-Methyl-2-pentanone	5	5 U	5 U	500 U	100 U	100 UJ
Toluene	1	1 U	1 U	100 U	20 U	20 UJ
trans-1,3-Dichloropropene	1	1 U	1 U	100 U	20 U	20 UJ
1,1,2-Trichloroethane	1	1 U	1 U	100 U	20 U	20 UJ
Tetrachloroethene	1	1 U	1 U	100 U	20 U	20 UJ
2-Hexanone	5	5 U	5 U	500 U	100 U	R
Dibromochloromethane	1	1 U	1 U	100 U	20 U	20 UJ
1,2-Dibromoethane	1	1 U	1 U	100 U	20 U	20 UJ
Chlorobenzene	1	1 U	1 U	100 U	20 U	20 UJ
Ethylbenzene	1	1 U	1 U	100 U	20 U	20 UJ
Styrene	1	1 U	1 U	100 U	20 U	20 UJ
1,1,2,2-Tetrachloroethane	1	1 U	1 U	100 U	20 U	20 UJ
Bromoform	1	1 U	1 U	100 U	20 U	20 UJ
1,3-Dichlorobenzene	1	1 U	1 U	100 U	20 U	20 UJ
1,4-Dichlorobenzene	1	1 U	1 U	100 U	20 U	20 UJ

Low Level Volatile Organic Compounds	CRQL					
Site						8
Location						MW4
Sample Depth						
Sample Number		FB-PW-GW2	FB-DI-GW2	DCPW-1DL	DCPW-1	8-MW4-GW2DL
Laboratory Sample ID		9607481-02	9607481-01	9607483-01DL	9607483-01	9607477-01DL
Matrix		water	water	water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed		7/18/96	7/18/96	7/23/96	7/23/96	7/23/96
1,2-Dichlorobenzene	1	1 U	1 U	100 U	20 U	20 UJ
1,2-Dibromo-3-chloropropane	1	1 U	1 U	100 U	20 U	20 UJ
Xylene (total)	1	1 U	1 U	100 U	20 U	20 UJ
Total TIC concentration		0	0	1900	1800	0
Units (ug/kg) Soil, (ug/L) Water	ug/L					
Dilution Factor		1	1	100	20	20
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL	25.0 mL	25.0 mL

Low Level Volatile Organic Compounds

	CRQL					
Site		8	8	7	7	1
Location		MW4	MW4	MW4	MW3	MW1
Sample Depth						
Sample Number		8-MW4-GW2	8-MW4-GW2	7-MW4-GW2	7-MW3-GW3	1-MW1-GW2
Laboratory Sample ID		9607477-01	9607477-01	9607488-03	9607477-03	9607488-01
Matrix		water	water	water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed		7/23/96	Composite result	7/26/96	7/18/96	7/23/96
Chloromethane	1	0.17 J	0.17 J	R	0.19 J	R
Vinyl chloride	1	1 UJ	1 UJ	R	1 UJ	R
Bromomethane	1	1 UJ	1 UJ	R	1 UJ	R
Chloroethane	1	1 UJ	1 UJ	R	1 UJ	R
1,1-Dichloroethene	1	0.59 J	0.59 J	R	1 UJ	R
Acetone	5	R	R	R	R	R
Carbon disulfide	1	1 UJ	1 UJ	R	1 UJ	R
Methylene chloride	2	2 UJ	2 UJ	R	2 UJ	R
trans-1,2-Dichloroethene	1	0.1 J	0.1 J	R	1 UJ	R
1,1-Dichloroethane	1	5.3 J	5.3 J	R	0.13 J	R
cis-1,2-Dichloroethene	1	230 J	220 J	R	0.31 J	R
2-Butanone	5	R	R	R	R	R
Bromochloromethane	1	1 UJ	1 UJ	R	1 UJ	R
Chloroform	1	1.6 J	1.6 J	R	2.9 J	R
1,2-Dichloroethane	1	1 UJ	1 UJ	R	1 UJ	R
1,1,1-Trichloroethane	1	1.2 J	1.2 J	R	0.2 J	R
Carbon tetrachloride	1	0.18 J	0.18 J	R	1 UJ	R
Benzene	1	1 UJ	1 UJ	0.44 J	1 UJ	0.19 J
Trichloroethene	1	8.5 J	8.5 J	R	0.67 J	R
1,2-Dichloropropane	1	1 UJ	1 UJ	R	1 UJ	R
Bromodichloromethane	1	0.15 J	0.15 J	R	1 UJ	R
cis-1,3-Dichloropropene	1	1 UJ	1 UJ	R	1 UJ	R
4-Methyl-2-pentanone	5	5 UJ	5 UJ	R	5 UJ	R
Toluene	1	2.3 J	2.3 J	1.5 J	1.9 J	R
trans-1,3-Dichloropropene	1	1 UJ	1 UJ	R	1 UJ	R
1,1,2-Trichloroethane	1	1 UJ	1 UJ	R	1 UJ	R
Tetrachloroethene	1	2 J	2 J	R	0.45 J	R
2-Hexanone	5	R	R	R	R	R
Dibromochloromethane	1	1 UJ	1 UJ	R	1 UJ	R
1,2-Dibromoethane	1	1 UJ	1 UJ	R	1 UJ	R
Chlorobenzene	1	1 UJ	1 UJ	R	1 UJ	R
Ethylbenzene	1	1 UJ	1 UJ	0.69 J	1 UJ	R
Styrene	1	1 UJ	1 UJ	R	1 UJ	R
1,1,2,2-Tetrachloroethane	1	1 UJ	1 UJ	R	1 UJ	R
Bromoform	1	1 UJ	1 UJ	R	0.19 J	R
1,3-Dichlorobenzene	1	1 UJ	1 UJ	R	1 UJ	R
1,4-Dichlorobenzene	1	1.2 J	1.2 J	0.88 J	0.94 J	R

Low Level Volatile Organic Compounds

	CRQL					
Site		8	8	7	7	1
Location		MW4	MW4	MW4	MW3	MW1
Sample Depth						
Sample Number		8-MW4-GW2	8-MW4-GW2	7-MW4-GW2	7-MW3-GW3	1-MW1-GW2
Laboratory Sample ID		9607477-01	9607477-01	9607488-03	9607477-03	9607488-01
Matrix		water	water	water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed		7/23/96	Composite result	7/26/96	7/18/96	7/23/96
1,2-Dichlorobenzene	1	1 UJ	1 UJ	R	1 UJ	R
1,2-Dibromo-3-chloropropane	1	1 UJ	1 UJ	R	1 UJ	R
Xylene (total)	1	1 UJ	1 UJ	0.32 J	1 UJ	R
Total TIC concentration		0		38	0	0
Units (ug/kg) Soil, (ug/L) Water	ug/L					
Dilution Factor		1	Composite result	1	1	1
Sample Weight/Volume		25.0 mL	25.0 mL	25.0 mL	25.0 mL	25.0 mL

Semivolatile Organic Compounds						
Site						8
Location						MW4
Sample Depth						
Sample Number		PADW-1	FB-PW-GW2	FB-DI-GW2	DCPW-1	8-MW4-GW2
Laboratory Sample ID		9607483-02	9607481-02	9607481-01	9607483-01	9607477-01
Matrix		water	water	water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed		7/24/96	7/23/96	7/23/96	7/24/96	7/23/96
	CRQL					
bis(2-Chloroethyl)ether	10	10 U	10 U	10 U	10 U	10 U
Phenol	10	10 U	10 U	10 U	42	10 U
2-Chlorophenol	10	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
2,2'- oxybis(1-chloropropane)	10	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10	10 U	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	10	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10	10 U	10 U	10 U	10 U	10 U
Isophorone	10	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	10	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10	10 U	10 U	10 U	10 U	10 U
Naphthalene	10	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	10	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	10	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25	25 U	25 U	25 U	25 U	25 U
2-Chloronaphthalene	10	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25	25 U	25 U	25 U	25 U	25 U
Acenaphthylene	10	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10	10 U	10 U	10 U	10 U	10 U
Acenaphthene	10	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	25	25 U	25 U	25 U	25 U	25 U
2,4-Dinitrophenol	25	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	25	25 U	25 U	25 U	25 U	25 U

Semivolatile Organic Compounds						
Site						8
Location						MW4
Sample Depth						
Sample Number		PADW-1	FB-PW-GW2	FB-DI-GW2	DCPW-1	8-MW4-GW2
Laboratory Sample ID		9607483-02	9607481-02	9607481-01	9607483-01	9607477-01
Matrix		water	water	water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed		7/24/96	7/23/96	7/23/96	7/24/96	7/23/96
	CRQL					
Fluorene	10	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether	10	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	25	25 U	25 U	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25	25 U	25 U	25 U	25 U	25 U
n-Nitrosodiphenylamine	10	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	10	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10	10 U	10 U	10 U	10 U	10 U
Anthracene	10	10 U	10 U	10 U	10 U	10 U
Carbazole	10	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10	10 U	10 U	10 U	1 J	10 U
Fluoranthene	10	10 U	10 U	10 U	1 J	1 J
Pyrene	10	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10	10 U	10 U	10 U	10 U	10 U
Benzo[a]anthracene	10	10 U	10 U	10 U	10 U	10 U
Chrysene	10	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10	1 BJ	1 J	1 J	28 B	10 U
Di-n-octylphthalate	10	10 U	10 U	10 U	2 J	10 U
Benzo[b]fluoranthene	10	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	10	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	10	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	10	10 U	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	10	10 U	10 U	10 U	10 U	10 U
Benzo[g,h,i]perylene	10	10 U	10 U	10 U	10 U	10 U
Total TIC concentration		20	22	26	177	32
Units (ug/kg) Soil, (ug/L) Water	ug/L					
Dilution Factor		1	1	1	1	1
Sample Weight/Volume		1000 mL	1000 mL	1000 mL	1000 mL	1000 mL

Semivolatile Organic Compounds				
Site		7	7	1
Location		MW4	MW3	MW1
Sample Depth				
Sample Number		7-MW4-GW2	7-MW3-GW3	1-MW1-GW2
Laboratory Sample ID		9607488-03	9607477-03	9607488-01
Matrix		water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96
Date Analyzed		7/24/96	7/23/96	7/24/96
	CRQL			
bis(2-Chloroethyl)ether	10	10 U	10 U	10 U
Phenol	10	10 U	10 U	10 U
2-Chlorophenol	10	10 U	10 U	10 U
1,3-Dichlorobenzene	10	10 U	10 U	10 U
1,4-Dichlorobenzene	10	10 U	10 U	10 U
1,2-Dichlorobenzene	10	10 U	10 U	10 U
2,2'- oxybis(1-chloropropane)	10	10 U	10 U	10 U
2-Methylphenol	10	10 U	10 U	10 U
Hexachloroethane	10	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10	10 U	10 U	10 U
4-Methylphenol	10	10 U	10 U	10 U
Nitrobenzene	10	10 U	10 U	10 U
Isophorone	10	10 U	10 U	10 U
2-Nitrophenol	10	10 U	10 U	10 U
2,4-Dimethylphenol	10	10 U	10 U	10 U
bis(2-Chloroethoxy)methane	10	10 U	10 U	10 U
2,4-Dichlorophenol	10	10 U	10 U	10 U
1,2,4-Trichlorobenzene	10	10 U	10 U	10 U
Naphthalene	10	10 U	10 U	10 U
4-Chloroaniline	10	10 U	10 U	10 U
Hexachlorobutadiene	10	10 U	10 U	10 U
4-Chloro-3-methylphenol	10	10 U	10 U	10 U
2-Methylnaphthalene	10	10 U	10 U	10 U
Hexachlorocyclopentadiene	10	10 U	10 U	10 U
2,4,6-Trichlorophenol	10	10 U	10 U	10 U
2,4,5-Trichlorophenol	25	25 U	25 U	25 U
2-Chloronaphthalene	10	10 U	10 U	10 U
2-Nitroaniline	25	25 U	25 U	25 U
Acenaphthylene	10	10 U	10 U	10 U
Dimethylphthalate	10	10 U	10 U	10 U
2,6-Dinitrotoluene	10	10 U	10 U	10 U
Acenaphthene	10	10 U	10 U	10 U
3-Nitroaniline	25	25 U	25 U	25 U
2,4-Dinitrophenol	25	25 U	25 U	25 U
Dibenzofuran	10	10 U	10 U	10 U
2,4-Dinitrotoluene	10	10 U	10 U	10 U
4-Nitrophenol	25	25 U	25 U	25 U

Semivolatile Organic Compounds	CRQL			
Site		7	7	1
Location		MW4	MW3	MW1
Sample Depth				
Sample Number		7-MW4-GW2	7-MW3-GW3	1-MW1-GW2
Laboratory Sample ID		9607488-03	9607477-03	9607488-01
Matrix		water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96
Date Analyzed		7/24/96	7/23/96	7/24/96
Fluorene	10	1 J	10 U	10 U
4-Chlorophenyl-phenylether	10	10 U	10 U	10 U
Diethylphthalate	10	10 U	10 U	10 U
4-Nitroaniline	25	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25	25 U	25 U	25 U
n-Nitrosodiphenylamine	10	10 U	10 U	10 U
4-Bromophenyl-phenylether	10	10 U	10 U	10 U
Hexachlorobenzene	10	10 U	10 U	10 U
Pentachlorophenol	25	25 U	25 U	25 U
Phenanthrene	10	10 U	10 U	10 U
Anthracene	10	1 J	10 U	10 U
Carbazole	10	10 U	10 U	10 U
Di-n-butylphthalate	10	10 U	10 U	10 U
Fluoranthene	10	10 J	10 U	10 U
Pyrene	10	9 J	10 U	10 U
Butylbenzylphthalate	10	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10	10 U	10 U	10 U
Benzo[a]anthracene	10	2 J	10 U	10 U
Chrysene	10	2 J	10 U	10 U
bis(2-Ethylhexyl)phthalate	10	10 U	10 U	10 U
Di-n-octylphthalate	10	10 U	10 U	10 U
Benzo[b]fluoranthene	10	2 J	10 U	10 U
Benzo[k]fluoranthene	10	2 J	10 U	10 U
Benzo[a]pyrene	10	1 J	10 U	10 U
Indeno[1,2,3-cd]pyrene	10	1 J	10 U	10 U
Dibenz[a,h]anthracene	10	10 U	10 U	10 U
Benzo[g,h,i]perylene	10	1 J	10 U	10 U
Total TIC concentration		1070	13	60
Units (ug/kg) Soil, (ug/L) Water	ug/L			
Dilution Factor		1	1	1
Sample Weight/Volume		1000 mL	1000 mL	1000 mL

Inorganics						
Site						8
Location						MW4
Sample Depth						
Sample Number		PADW-1	FB-PW-GW2	FB-DI-GW2	DCPW-1	8-MW4-GW2 (Diss.)
Laboratory Sample ID		9607483-02	9607481-02	9607481-01	9607483-01	9607477-02
Matrix		water	water	water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed		7/23/96 - 8/2/96	7/23/96 - 8/2/96	7/23/96 - 8/2/96	7/23/96 - 8/2/96	7/23/96 - 8/2/96
	CRDL					
Antimony	* 6	5 U	5 U	5 U	7.2 MW	5 U
Arsenic	10	1.8 B	2.9 BW	1.3 B	8 BW	1 U
Barium	200	29.9 B	53.3 B	4 U	31.8 B	87.3 J
Beryllium	* 4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Cadmium	5	2 U	2 U	2 U	2 U	2 U
Chromium	10	6 U	6.3 B	6 U	24.3	6 U
Copper	25	4 U	12.1 B	4 U	13 B	4 U
Lead	3	1 U	2.6 B	1 U	1 U	1 U
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	5 U	5 U	5 U	5 U	5 U
Selenium	5	1.8 B	1 UW	1 UW	5 U	1 UJ
Silver	10	3 U	3 U	3 U	3 U	3 U
Thallium	* 2	2 UW	2 U	2 U	2 UW	2 U
Zinc	20	9.2 B	1180	4.5 B	26.2	11.8 U
Units (mg/kg) Soil, (ug/L) Water	ug/L					

* Project-specific CRDL

Inorganics						
Site		8	7	7	7	7
Location		MW4	MW4	MW4	MW3	MW3
Sample Depth						
Sample Number		8-MW4-GW2	7-MW4-GW2 (Diss.)	7-MW4-GW2	7-MW3-GW3 (Diss.)	7-MW3-GW3
Laboratory Sample ID		9607477-01	9607488-04	9607488-03	9607477-04	9607477-03
Matrix		water	water	water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed		7/23/96 - 8/2/96	7/23/96 - 8/2/96	7/23/96 - 8/2/96	7/23/96 - 8/2/96	7/23/96 - 8/2/96
	CRDL					
Antimony	* 6	6 J	5 U	5 U	5 U	5 U
Arsenic	10	1 UJ	1.5 J	2.3 J	1 U	1 UJ
Barium	200	135 J	269	371	53.4 J	102 J
Beryllium	* 4	0.3 U	0.3 U	0.5 J	0.3 U	0.4 J
Cadmium	5	2 U	2 U	2 U	2 U	2 U
Chromium	10	13.6	7.7 J	21.6	9.7 J	11.3
Copper	25	4 U	4 U	7.8 J	4 U	4 U
Lead	3	1.4 J	1 U	2.7 J	1 U	1.6 J
Mercury	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Nickel	40	5 U	5 U	13.5 J	5 U	5 U
Selenium	5	1 U	1 UJ	1 UJ	1 U	1 UJ
Silver	10	3 U	3 U	3 U	3 U	3 U
Thallium	* 2	2 UJ	2 UJ	2 U	2 UJ	2 UJ
Zinc	20	31.4	11 U	50.5	14.2 U	43.8
Units (mg/kg) Soil, (ug/L) Water	ug/L					

* Project-specific CRDL

Inorganics			
Site		1	1
Location		MW1	MW1
Sample Depth			
Sample Number		1-MW1-GW2 (Diss.)	1-MW1-GW2
Laboratory Sample ID		9607488-02	9607488-01
Matrix		water	water
Date Sampled		7/11/96	7/11/96
Date Analyzed		7/23/96 - 8/2/96	7/23/96 - 8/2/96
	CRDL		
Antimony	* 6	5 U	5 U
Arsenic	10	1 U	1.7 J
Barium	200	30.8 J	36.6 J
Beryllium	* 4	0.3 U	0.3 U
Cadmium	5	2 U	2 U
Chromium	10	8.2 J	9.9 J
Copper	25	4 U	4 U
Lead	3	1 U	1 U
Mercury	0.2	0.2 U	0.2 U
Nickel	40	5 U	5 U
Selenium	5	4.1 J	3.9 J
Silver	10	3 U	3 U
Thallium	* 2	2 UJ	2 U
Zinc	20	80.8	109
Units (mg/kg) Soil, (ug/L) Water	ug/L		

* Project-specific CRDL

JP4, Gas, Diesel, Oil						
Site						8
Location						MW4
Sample Depth						
Sample Number		PADW-1	FB-PW-GW2	FB-DI-GW2	DCPW-1	8-MW4-GW2
Laboratory Sample ID		9607483-02	9607481-02	9607481-01	9607483-01	9607477-01
Matrix		water	water	water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96	7/11/96	7/11/96
Date Analyzed		7/18-25/96	7/18-25/96	7/18-25/96	7/18-25/96	7/18-24/96
	* RL					
Gasoline range	0.25	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ
Diesel range, as diesel	0.25	0.26	0.25 U	0.25 U	0.39	0.25 U
Oil range, as oil	1	1 U	1 U	1 U	1 U	1 U
JP-4	0.25	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U

Units (mg/kg) Soil, (mg/L) Water

* RL - Reporting Limit

JP4, Gas, Diesel, Oil				
Site		7	7	1
Location		MW4	MW3	MW1
Sample Depth				
Sample Number		7-MW4-GW2	7-MW3-GW3	1-MW1-GW2
Laboratory Sample ID		9607488-03	9607477-03	9607488-01
Matrix		water	water	water
Date Sampled		7/11/96	7/11/96	7/11/96
Date Analyzed		7/18-25/96	7/18-24/96	7/18-25/96
	* RL			
Gasoline range	0.25	0.48 J	0.25 UJ	R
Diesel range, as diesel	0.25	1.8	0.26 NJ	0.36 NJ
Oil range, as oil	1	1 U	1 U	1 U
JP-4	0.25	7.7	0.25 U	0.25 U

Units (mg/kg) Soil, (mg/L) Water
* RL - Reporting Limit

Inorganics	CRDL				
Site		8	8	8	8
Location			SB9	SB9	SB9
Sample Depth			8.5-9.4	4.5-5.5	8-SB9-1-3
Sample Number		8-RB2	8-SB9-8.5-9.4	8-SB9-4.5-5.5	8-SB9-1-3
Laboratory Sample ID		9605024-11	9605024-06	9605024-05	9605024-04
Matrix		water	soil	soil	soil
Date Sampled		4/30/96	4/30/96	4/30/96	4/30/96
Date Analyzed		5/9/96 - 6/14/96	5/9/96 - 6/14/96	5/9/96 - 6/14/96	5/9/96 - 6/14/96
Antimony	* 6	5 UW	0.86 UJ	0.84 UJ	0.95 UJ
Arsenic	10	1 UW	5	3.1	22.4
Barium	200	4 U	209	130	168
Beryllium	* 4	0.3 U	0.42 J	0.3 J	0.53 J
Cadmium	5	2 U	0.35 U	0.35 U	0.36 U
Chromium	10	6 U	14.5	7.3	11.1
Copper	25	4 U	10.9	24.9	36.6
Lead	3	1 U	6.5	6.1	17.2
Mercury	0.2	0.2 U	0.07 U	0.09 U	0.11 U
Nickel	40	5 U	10.9	7.9	9.2
Selenium	5	1 U	0.17 UJ	0.17 UJ	0.19 UJ
Silver	10	3 U	0.53 U	0.53 U	0.53 U
Thallium	* 2	2 U	0.34 U	0.33 U	0.38 U
Zinc	20	11 B	56	56.4	67.8
Units (mg/kg) Soil, (ug/L) Water	ug/L				
% Solids		0	91.6	91.2	87.8
* Project-specific CRDL					

Inorganics					
Site		8	8	8	7
Location		SB10	SB10	SB10	SB5
Sample Depth		9-9.9	4.5-6.5	1-3.	8-8.6
Sample Number		8-SB10-9-9.9	8-SB10-4.5-6.5	8-SB10-1-3	7-SB5-8-8.6
Laboratory Sample ID		9605024-10	9605024-09	9605024-08	9604830-03
Matrix		soil	soil	soil	soil
Date Sampled		4/30/96	4/30/96	4/30/96	4/27/96
Date Analyzed		5/9/96 - 6/14/96	5/9/96 - 6/14/96	5/9/96 - 6/14/96	5/9/96 - 6/14/96
	CRDL				
Antimony	* 6	0.88 UJ	0.98 UJ	0.96 UJ	0.82 UJ
Arsenic	10	6.7	2.3	3.8	3.1
Barium	200	93.9	100	229	390
Beryllium	* 4	0.34 J	0.37 J	0.36 J	0.55 J
Cadmium	5	0.34 U	0.34 U	0.36 U	0.37 U
Chromium	10	6.1	9	9.1	11.3
Copper	25	22.1	11.5	15.9	24.3
Lead	3	8	5.1	6.7	7.7
Mercury	0.2	0.14	0.09 U	0.09 U	0.09
Nickel	40	11.2	8.8	9.1	9.5
Selenium	5	0.18 UJ	0.2 UJ	0.19 UJ	0.16 UJ
Silver	10	0.52 U	0.51 U	0.54 U	0.55 U
Thallium	* 2	0.35 U	0.39 U	0.38 U	0.33 UJ
Zinc	20	54.4	38	43.8	65.3
Units (mg/kg) Soil, (ug/L) Water	ug/L				
% Solids		91.7	82.1	90.4	92.1
* Project-specific CRDL					

Inorganics					
Site		7	7	6	6
Location		SB5	SB5	SB16	SB16
Sample Depth		4.5-5.4	1-3.	8.5-9.5	3.9-4.5
Sample Number		7-SB5-4.5-5.4	7-SB5-1-3	6-SB16-8.5-9.5	6-SB16-3.9-4.5
Laboratory Sample ID		9604830-02	9604830-01	9605024-03	9605024-02
Matrix		soil	soil	soil	soil
Date Sampled		4/27/96	4/27/96	4/30/96	4/30/96
Date Analyzed		5/9/96 - 6/14/96	5/9/96 - 6/14/96	5/9/96 - 6/14/96	5/9/96 - 6/14/96
	CRDL				
Antimony	* 6	0.85 UJ	0.89 UJ	0.91 UJ	0.86 UJ
Arsenic	10	1.9	11.1	3.1	7.2
Barium	200	132	158	115	250
Beryllium	* 4	0.33 J	0.78	0.23 J	0.37 J
Cadmium	5	0.34 U	0.37 U	0.36 U	0.36 U
Chromium	10	7.2	14.2	10.5	12
Copper	25	16	32.1	8.8	17.6
Lead	3	17.5	13.5	4.6	8.5
Mercury	0.2	0.08 U	0.08 U	0.09 U	0.08 U
Nickel	40	7.2	13.6	5.6 J	9.4
Selenium	5	0.17 UJ	0.18 UJ	0.18 UJ	0.17 UJ
Silver	10	0.52 U	0.56 U	0.54 U	0.53 U
Thallium	* 2	0.34 U	0.36 U	0.36 U	0.35 U
Zinc	20	55.3	68.6	34.9	40.6
Units (mg/kg) Soil, (ug/L) Water	ug/L				
% Solids		91.6	85.7	92.5	90.5
* Project-specific CRDL					

Inorganics				
Site		6	6	6
Location		SB16	DW1	DW1
Sample Depth		0.9-3.9	7.3-7.6	4.1-4.6
Sample Number		6-SB16-0.9-3.9	6-DW1-7.3-7.6	6-DW1-4.1-4.6
Laboratory Sample ID		9605024-01	9604830-05	9604830-04
Matrix		soil	soil	soil
Date Sampled		4/30/96	4/27/96	4/27/96
Date Analyzed		5/9/96 - 6/14/96	5/9/96 - 6/14/96	5/9/96 - 6/14/96
	CRDL			
Antimony	* 6	0.91 UJ	0.95 UJ	0.86 UJ
Arsenic	10	15.2	3.3	3.9
Barium	200	199	259	273
Beryllium	* 4	0.52 J	0.25 J	0.33 J
Cadmium	5	0.35 U	0.33 U	0.33 U
Chromium	10	10.4	16.5	13.1
Copper	25	41.7	34.2	14.9
Lead	3	14.8	19.1	56.6
Mercury	0.2	0.09	0.1 U	0.12 U
Nickel	40	10.7	7.8	8.6
Selenium	5	0.18 UJ	0.19 UJ	0.17 UJ
Silver	10	0.52 U	0.5 U	0.5 U
Thallium	* 2	0.36 U	0.38 U	0.34 U
Zinc	20	64.2	65.3	52.5
Units (mg/kg) Soil, (ug/L) Water	ug/L			
% Solids		87.7	92.4	90.6

* Project-specific CRDL

APPENDIX F

CHAIN OF CUSTODY

CHAIN OF CUSTODY RECORD

~~Laucks Testing Laboratories, Inc.~~ K 4/29/96

INTERNAL

PAGE 1 OF 3

WORK ORDER ID#

DATE 4/29/96

SUBMITTED AT:
☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operation Technologies Corp.
ADDRESS: 683 Emory Valley Rd.
Oak Ridge, TN 37830
ATTENTION: Dr. Michael Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Michael Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / 483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE) Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	FIELD SCREEN 8021	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	6-DW1-4.1-4.6	4/29/96		✓		
	7-SB6-7.2-8			✓		
	7-SB5-4.5-5.4			✓		
	7-SB5-8-8.6			✓		
	6-DW1-7.3-7.6			✓		
	7-DW1-1.2-3.2			✓		
	7-DW1-3.2-4.2			✓		
	7-SB7-8-8.3			✓		
	7-SB5-1-3			✓		
	7-SB6-3.5-5.5			✓		
	7-SB7-1-3			✓		
	8-SB8-9.5-10.5			✓		
	8-SB6-0.5-2.4			✓		
	8-SB8-4.5-5.5			✓		
	8-SB8-0.5-2.5			✓		

Field QC Samples KP

TOTAL NO. OF CONTAINERS

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME
ADDRESS
ATTN:
CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☐ STD. 10-14 DAYS
☐ OTHER

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐

TEMPERATURE
☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE TIME	RECEIVED BY (SIGN AND PRINT)	DATE TIME
Kathy Pritchett / Kathryn Pritchett	1916 4/29/96	/	
/		/	

Laucks Testing Laboratories, Inc. 4/29/96

INTERNAL

WORK ORDER ID# ____________ PAGE ~~3~~ 2 OF 3

DATE 4/24/96

SUBMITTED AT:

☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

NAME:
ADDRESS:
ATTENTION:
PROJECT NAME:
PROJECT CONTACT:
TELEPHONE/FAX: Same
JOB/P.O. NO.:
SAMPLER (SIGNATURE) Kathyn Pritchett (PRINTED NAME) Kathryn Pritchett

KP

TESTS TO PERFORM

Field GC Bottles

KP

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	MOD 8021 FIELD SCREEN	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	8-SB6-9.5-10.3	4/29/96		✓		
	7-SB5-4.5-5.4	↓		✓		
	8-SB6-4.5-5.7			✓		
	8-SB7-8.9-10.3			✓		
	8-SB7-4.5-5.8			✓		
	8-SB7-0.5-2.5			✓		
	6-SB15-0.5-2.5			✓		
	6-SB15-7.7-8.1			✓		
	6-SB18-8-8.3			✓		
	6-SB18-0.5-2.5			✓		
	6-SB17-9.5-9.9			✓		
	6-SB17-0.5-2.5			✓		
	6-SB17-4.5-5.8			✓		
	6-SB18-4.5-5.2			✓		
	6-SB15-2.5-4	↓		✓		

TOTAL NO. OF CONTAINERS

INSTRUCTIONS

1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE

NAME ADDRESS
ATTN: CITY, STATE, ZIP

TURNAROUND REQUEST

☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☐ STD. 10-14 DAYS
☐ OTHER ________

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐

TEMPERATURE: ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE TIME	RECEIVED BY (SIGN AND PRINT)	DATE TIME
Kathyn Pritchett / Kathryn Pritchett	4/29/96 1916	/	
/		/	

FINAL REPORT COPY

Lauchs Testing Laboratories, Inc.

AK 4/29/9

☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

CHAIN OF CUSTODY RECORD

INTERNAL

WORK ORDER ID#

DATE 4/24/96

PAGE 3 OF 3

SUBMITTED AT:

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME:
ADDRESS:
ATTENTION: KP
PROJECT NAME:
PROJECT CONTACT: Same
TELEPHONE/FAX:
JOB/P.O. NO.:
SAMPLER (SIGNATURE) Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

TESTS TO PERFORM: FIELD SCREEN MOD 8021

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	FIELD SCREEN MOD 8021	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	7-SBG-0-2	4/29/96				

Field GC Samples

KP

TOTAL NO. OF CONTAINERS

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME
ADDRESS
ATTN:
CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☐ STD. 10-14 DAYS
☐ OTHER ______

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ NA
SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE: ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	4/29/96 1916	/	
/		/	

FedEx USA Airbill

Tracking Number 9436691460

Sender's Copy

27 100 43906796 6068M

1 From (please print)

Date 5/3/96 Sender's FedEx Account Number 1859-6715-8

Sender's Name Dr. M. Ghazizadeh Phone (423) 483-8020

Dept./Floor/Suite/Room

Company OPERATIONAL TECHNOLOGIES

Address 683 EMORY VALLY RD

City OAK RIDGE State TN Zip 3 7 8 3 0

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice) 8056 -101

3 To (please print)

Recipient's Name ~~Lauck~~ Laucks Testing Laboratories Inc Phone (206) 767-5060

Dept./Floor/Suite/Room

Company 940 South Harney street

Address ~~Seattle~~ (To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

City Seattle State WA Zip 98108

For HOLD at FedEx Location check here

- Hold Weekday (Not available with FedEx First Overnight)
- Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

[X] For Saturday Delivery check here (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

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See the FedEx Service Guide for further details.

4 Service Delivery commitment may be later in some areas.

- [X] FedEx Priority Overnight (Next business morning)
- FedEx Standard Overnight (Next business afternoon)
- FedEx 2Day* (Second business day)
- FedEx Govt. Overnight (Authorized user only)
- FedEx Overnight Freight
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*FedEx Letter Rate not available. Minimum charge: One pound FedEx 2Day rate.

5 Packaging

- FedEx Letter*
- FedEx Pak*
- FedEx Box
- FedEx Tube
- [X] Other Packaging

Declared value limit $500.

6 Special Handling

Does this shipment contain dangerous goods?

- Yes (As per attached Shipper's Declaration)
- Yes (Shipper's Declaration not required)
- Dry Ice Dry Ice, 9, UN 1845 III ____ x ____ kg. 904 (Dangerous Goods Shipper's Declaration not required)
- CA Cargo Aircraft Only

7 Payment

Bill to: [X] Sender (Account no. in section 1 will be billed) Recipient Third Party Credit Card Cash/Check (Enter FedEx account no. or Credit Card no. below)

FedEx Account No.

Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
1	20	$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

232

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Questions? Call 1·800·Go·FedEx (1-800-463-3339)

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CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

WORK ORDER ID# MG   PAGE 1 OF 1

DATE 5/3/96

SUBMITTED AT:
☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp.
ADDRESS: 683 Emory Valley Rd
Oak Ridge, TN 37830
ATTENTION: Dr. M. GhaziZADEH
PROJECT NAME: Great Falls, RI
PROJECT CONTACT: Dr. M. Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / (423) 483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE) Michael M. Ghazizadeh (PRINTED NAME) M. GHAZIZADEH

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOC (CLP)		Preservative	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	6-MW2-20	4/29/96	12:00P	✓	Soil	None	1	RUSH
	6-MW3-20.5	4/29/96	10:45a	✓	Soil	"	1	
	7-MW2-20.5	4/28/96	11:05a	✓	Soil	"	1	
	7-MW4-20.5	4/28/96	4:50P	✓	Soil	" Air Bill # 9436691460	1	
	7-MW5-20.5	4/28/96	2:45P	✓	Soil	" Fed Exp	1	Trip Blank
	7-TBA	5/3/96	3:15P	✓	Water	No ~~4~~ MG	1	SAMPLES
	1-MW2-GW1 1759	5/2/96	9:45a	✓	Water	Y' HCl (3 Vials)	3	Packed
	Temp-Blank-A	5/3/96	4:15P	NA		1 8 oz Jar	1	Per
	5/13/96							Watts Telephone Conversation
							10 MG 5/3/96	
							9 MG 5/3/96	

TOTAL NO. OF CONTAINERS: 16

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME / ADDRESS
ATTN: / CITY, STATE, ZIP

TURNAROUND REQUEST
☒ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☐ STD. 10-14 DAYS
☐ OTHER ______

CHAIN OF CUSTODY SEALS? ☒ YES ☐ NO ☐ NA
SHIPPED VIA: ☐ UPS ☒ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE: ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
M. Ghazizadeh / M. GHAZIZADEH	5/3/96 3:30 P.	/	
/		/	

CLIENT COPY

FedEx USA Airbill

Tracking Number 9436691434

Sender's Copy

24 100 43906796 6068M

1 From (please print)

Date 5/1/96 Sender's FedEx Account Number 1859-6715-8

Sender's Name Dr. Michael Ghazizadeh Phone (423)-483-8020

Dept./Floor/Suite/Room

Company OPERATIONAL TECHNOLOGIES

Address 683 EMORY VALLY RD

City OAK RIDGE State TN Zip 37830

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice) 8056-101

3 To (please print)

Recipient's Name Phone ~~(423)~~ 206 767-5060

Dept./Floor/Suite/Room

Company Laucks Testing Laboratories

Address (To "HOLD" at FedEx location, print FedEx address here) 940 South Harney St.

(We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

City ~~Seattle~~ Seattle State WA Zip 98108

For HOLD at FedEx Location check here

- [ ] Hold Weekday (Not available with FedEx First Overnight)
- [ ] Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here

- [ ] (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

4 Service Delivery commitment may be later in some areas.

- [x] FedEx Priority Overnight (Next business morning)
- [ ] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day* (Second business day)
- [ ] FedEx Govt. Overnight (Authorized user only)
- [ ] FedEx Overnight Freight
- [ ] FedEx 2Day Freight

(For packages over 150 pounds. Call for delivery schedule.)

- [ ] NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge: One pound FedEx 2Day rate.

5 Packaging

- [ ] FedEx Letter*
- [ ] FedEx Pak*
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other Packaging

Declared value limit $500.

6 Special Handling

Does this shipment contain dangerous goods?

- [ ] Yes (As per attached Shipper's Declaration)
- [ ] Yes (Shipper's Declaration not required)
- [ ] Dry Ice — Dry Ice, 9, UN 1845 III ____ x ____ kg. 904 (Dangerous Goods Shipper's Declaration not required)
- CA [ ] Cargo Aircraft Only

7 Payment

Bill to:

- [x] Sender (Account no. in section 1 will be billed)
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

(Enter FedEx account no. or Credit Card no. below)

FedEx Account No.

Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
1	44	$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

232

Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. See back of Sender's Copy of this airbill for information and additional terms. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid.

See the FedEx Service Guide for further details.

Questions?
Call 1·800·Go·FedEx (1-800-463-3339)

The World On Time

FORM ID NO. 0200

WCSL 0196
Rev. Date 10/95 • PART #147381

Laucks Testing Laboratories, Inc.

CHAIN OF CUSTODY RECORD

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp.
ADDRESS: 683 Emory Valley Rd, Oak Ridge, TN 37830
ATTENTION: Dr. Michael Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Michael Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / 483-7800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE): Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

WORK ORDER ID#: ____
DATE: 5/1/96
PAGE 1 OF 1

SUBMITTED AT:
☑ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP) HCl	SVOCs (CLP)	TPH (8015) GRO	metals (CLP)	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	MANG-FB1-DI	5/1/96	1730	✓	✓	✓	✓	8	
	MANG-FB2-PW	↓	↓	✓	✓	✓	✓	8	
	FB-TB1	5/1/96	—	✓				1	Trip Blank
	Temperature Blank	(1) 40 ml VOA (HCl)						1	

Air Bill # 943 669 1434

KP

TOTAL NO. OF CONTAINERS: 18

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME / ADDRESS
ATTN: / CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☑ STD. 10-14 DAYS
☐ OTHER ____

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐ ____

TEMPERATURE ____ ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	5/1/96 1830	/	
/		/	

CLIENT COPY

CLIENT COPY

FedEx USA Airbill

Tracking Number 9436691423

Sender's Copy

23 100 43906796 6068M

1 From (please print)

Date 5/1/96 Sender's FedEx Account Number 1859-6715-8

Sender's Name Michael M. Chizzola Phone (423)-483-8020

Dept/Floor/Suite/Room

Company OPERATIONAL TECHNOLOGIES

Address 683 EMORY VALLY RD

City OAK RIDGE State TN Zip 37830

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice)

3 To (please print)

Recipient's Name Mr. Daniel Fargo Phone (805) 392-8600

Dept/Floor/Suite/Room

Company Core Laboratories, INC.

Address 3430 Unicorn Road
(To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

City Bakersfield State Calif. Zip 93308

For HOLD at FedEx Location check here
- [ ] Hold Weekday (Not available with FedEx First Overnight)
- [ ] Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here
- [ ] (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. See back of Sender's Copy of this airbill for information and additional terms. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid.
See the FedEx Service Guide for further details.

4 Service Delivery commitment may be later in some areas.
- [ ] FedEx Priority Overnight (Next business morning)
- [x] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day* (Second business day)
- [ ] FedEx Govt. Overnight (Authorized user only)
- [ ] DESCRIPTION
- [ ] FedEx Overnight Freight
- [ ] FedEx 2Day Freight

(For packages over 150 pounds. Call for delivery schedule.)
- [ ] NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge: One pound FedEx 2Day rate.

5 Packaging
- [ ] FedEx Letter*
- [ ] FedEx Pak*

Declared value limit $500
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other Packaging

6 Special Handling

Does this shipment contain dangerous goods?
- [ ] Yes (As per attached Shipper's Declaration)
- [ ] Yes (Shipper's Declaration not required)
- [ ] Dry Ice Dry Ice, 9, UN 1845 III ______ x ______ kg. 904 (Dangerous Goods Shipper's Declaration not required)
- CA [ ] Cargo Aircraft Only

7 Payment

Bill to:
- [x] Sender (Account no. in section 1 will be billed)
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

(Enter FedEx account no. or Credit Card no. below)

FedEx Account No.

Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
1	60	$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

232

Questions? Call 1·800·Go·FedEx (1-800-463-3339)

The World On Time℠

FORM ID NO. 0200

Laucks Testing Laboratories, Inc.

☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ ~~1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265~~

CHAIN OF CUSTODY RECORD

WORK ORDER ID#

DATE 4/29/96

PAGE 1 OF 1

SUBMITTED AT:

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: M. GHAZIZADEH

ADDRESS: 683 Emory Valley Road, Oak Ridge, TN 37919

ATTENTION: MaC

PROJECT NAME: 8:56-101

PROJECT CONTACT: Mee

TELEPHONE/FAX: 423-483-8020 / 423-483-2800

JOB/P.O. NO.:

SAMPLER (SIGNATURE) M. Ghazizadeh (PRINTED NAME) M. Ghazizadeh

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	Grain size	Moisture content	Porosity	Specific Gravity	Total Organic Carbon	Permeability	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
11	6-SB15 4.5-5.2	4/26	10:55	✓	✓	✓	✓	✓	✓		if have any quest.
2)	6-SB17 6.1-6.4	〃	13:55	✓	✓	✓	✓	✓	✓		Call David Bunn
(2)	6-SB18 2.5-3.5	〃	—	✓	✓	✓	✓	✓	✓		at cptech,
(2)	6-SB17 2.5-3.5	〃	1:20p	✓	✓	✓	✓	✓	✓		OR office
(2)	8-SB7 6.0-6.9	4/25	14:45	✓	✓	✓	✓	✓	✓		423-483-8020
(2)	8-SB6 6.0-6.7	4/25	13:05	✓	✓	✓	✓	✓	✓		
(2)	8-SB7 2.5-3.5	4/25	14:20p	✓	✓	✓	✓	✓	✓		
(2)	8-SB6 2.5-3.5	4/25	11:40a	✓	✓	✓	✓	✓	✓		

~~GeoTechnical~~

This C.O.C is only for sample information and doesn't apply to Normal C.O.C Procedures.

M. Ghazizadeh

M. Ghazizadeh

M. Ghazizadeh

INSTRUCTIONS

1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE

NAME — ADDRESS: Same

ATTN: — CITY, STATE, ZIP: Same

TURNAROUND REQUEST

- ☐ 24-48 HRS (100% SUR)
- ☐ 5-DAYS (50% SUR)
- ☒ STD. 10-14 DAYS
- ☐ OTHER

TOTAL NO. OF CONTAINERS

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐

TEMPERATURE

☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
M. Ghazizadeh / M. GHAZIZADEH	~~4/29/96~~ ~~9:30~~ MG 5/1/96	3:30 P.M.	
/		/	

CLIENT COPY

FedEx® Federal Express MULTIPLE PACKAGE SHIPMENT LABELS

SHIPMENT DATE	4-25-96
MASTER AIRBILL NUMBER	6895610304

2 OF 2 9532989051

DESCRIPTION

___ OF ___ 9532989067

DESCRIPTION

___ OF ___ 9532989076

DESCRIPTION

___ OF ___ 9532989085

DESCRIPTION

___ OF ___ 9532989094

DESCRIPTION

PART #136286 REV. 5/94 ©1994 FedEx
SENDER'S COPY FORMAT #206 SRCEF 2/95

Sender's Copy

FedEx USA Airbill

Tracking Number 6895610304

1 From (please print)

Date 4/25/96 Sender's FedEx Account Number 1859-6715-8

Sender's Name Dr. Michael Ghazizadeh Phone (423) 483-8020

Company Operational Technologies Corp Dept/Floor Suite/Room

Address 683 Emory Valley Rd.

City Oak Ridge State TN Zip 37830

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice)

3 To (please print)

Recipient's Name Phone (206) 767-5060

Company Laucks Testing Laboratories Dept/Floor Suite/Room

Address (To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes) 940 South Harney Street

City Seattle State WA Zip 98108

For "HOLD" Service check here
☐ Weekday ☐ Saturday (Not available at all locations)

For Saturday Delivery check here
☐ (Extra Charge. Not available to all locations)

4 Service*
☑ FedEx Priority Overnight (Next business morning) ☐ FedEx Standard Overnight (Next business afternoon) ☐ FedEx 2Day (Second business day)
☐ FedEx Govt. Overnight (Authorized user only)
☐ FedEx Overnight Freight ☐ FedEx 2Day Freight (For packages over 150 pounds. Call for delivery schedule.)

*Delivery commitment may be later in some areas

5 Packaging
☐ FedEx Letter* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☑ Other Packaging
*Declared value limit $

6 Special Handling
Does this shipment contain dangerous goods? ☐ No ☐ Yes (As per attached Shipper's Declaration) ☐ Yes (Shipper's Declaration not required)
☐ Dry Ice Dry Ice, 9, UN 1845 III ___ x ___ kg. 904 (Dangerous Goods Shipper's Declaration not required)
CA ☐ Cargo Aircraft Only

7 Payment
Bill to: ☑ Sender (Account no. in section 1 will be billed) ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check (Enter FedEx account no. or Credit Card no. below)

FedEx Account No.

Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
2	107	$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

194

Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. See back of Sender's Copy of this airbill for information and additional terms. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid.

See the FedEx Service Guide for further details.

Questions?
Call 1·800·Go·FedEx

The World On Time

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp

ADDRESS: 683 Emory Valley Rd.
Oak Ridge, TN 37830

ATTENTION: Dr. Michael Ghazizadeh

PROJECT NAME: Great Falls RI

PROJECT CONTACT: Dr. Michael Ghazizadeh

TELEPHONE/FAX: (423) 483-8020 / 483-2280

JOB/P.O. NO.: 8056-101

SAMPLER (SIGNATURE): Katy Pritchett (PRINTED NAME) Kathryn Pritchett

CHAIN OF COUSTODY RECORD

WORK ORDER ID# ____ PAGE 1 OF 1

DATE 4/25/96

Laucks Testing Laboratories, Inc.

SUBMITTED AT:
☑ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

TESTS TO PERFORM

Note: Water preservation VOCs HCl

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP)	SVOCs (CLP)	TPH (8015)	metals (CLP)	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	8-SB8-9.5-10.5	4/25/96	1009	✓	✓	✓	✓	2	
	8-SB8-0.5-2.5	↓	~~1~~935	✓	✓	✓	✓	2	
	8-SB8-4.5-5.5		945	✓	✓	✓	✓	2	
	8-SB6-9.5-10.3		1215	✓	✓	✓	✓	2	
	8-SB6-4.5-5.7		1150	✓	✓	✓	✓	2	
	8-SB6-0.5-2.4		1130	✓	✓	✓	✓	2	
	8-TB1		—	✓				1	Trip Blank
	Temperature Blank			1 l amber				1	

Airbill # 6E 956 10304

TOTAL NO. OF CONTAINERS 14

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME ____ ADDRESS ____
ATTN: ____ CITY, STATE, ZIP ____

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ ~~5-DAYS~~ (50% SUR)
☑ STD. 10-14 DAYS
☐ OTHER ____

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐

TEMPERATURE ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Katy Pritchett / Kathryn Pritchett	4/25/96 1400	/	
Reed Carlson / REED CARLSON	4/25 1800	/	

CLIENT COPY

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

WORK ORDER ID# ______ PAGE 1 OF 1

DATE 4/25/96

SUBMITTED AT:
- ☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
- ☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

NAME: Operational Technologies Corp.
ADDRESS: ~~677~~ Emory Valley Rd. 683 Oak Ridge, TN 37830
ATTENTION: Dr. Michael Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Michael Ghazizadeh
TELEPHONE/FAX: ~~(408)~~ (423) 483-9020 / 483-2200
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE) Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

TESTS TO PERFORM

Note: water sample preservation: VOCs & TPH (GRO) HCl; metals HNO3

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP)	SVOCs (CLP)	TPH (8015)	Metals (CLP)		NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	8-RB1	4/25/96	1520	✓	✓	✓	✓	Water	8	equipment rinsate
	8-SB7-8.9-10.3	↓	1458	✓	✓	✓	✓	also duplicate Soil	2	includes duplicate
	8-SB7-4.5-5.8	↓	1435	✓	✓	✓	✓	↓	2	
	8-SB7-0.5-2.5	↓	1415	✓	✓	✓	✓	↓	2	
	8-TB2	↓	—	✓				↓	1	Trip Blank
	Temperature Blank include							1-L amber	1	

Air Bill # 6895610304

TOTAL NO. OF CONTAINERS: 16

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME / ADDRESS
ATTN: / CITY, STATE, ZIP

TURNAROUND REQUEST
- ☐ 24-48 HRS (100% SUR)
- ☐ 5-DAYS (50% SUR)
- ☐ STD. 10-14 DAYS
- ☐ OTHER ______

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐ ______

TEMPERATURE ______ ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	4/25/96 1805	/	
Reed Carlson / Reed Carlson	4-25 1800	/	

CLIENT COPY

FedEx Federal Express® **MULTIPLE PACKAGE SHIPMENT LABELS**

SHIPMENT DATE 4/26/96

MASTER AIRBILL NUMBER 9436691386

2 OF 2 9532989155

DESCRIPTION

OF 9532989164

DESCRIPTION

OF 9532989173

DESCRIPTION

OF 9532989182

DESCRIPTION

OF 9532989191

DESCRIPTION

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FedEx USA Airbill

Tracking Number 9436691386

Sender's Cop

19 100 43906796 6068N

1 From (please print)

Date 4/26/96 Sender's FedEx Account Number 1859-6715-8

Sender's Name Dr. Moe Ghazizadeh Phone (423)-483-8020

Dept./Floor/Suite/Room

Company OPERATIONAL TECHNOLOGIES

Address 683 EMORY VALLY RD

City OAK RIDGE State TN Zip 37830

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice) 8056-01

3 To (please print)

Recipient's Name Phone ( )

Dept./Floor/Suite/Room

Company Laucks Testing Laboratories, Inc.

Address 940 South Harney St.
(To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

City Seattle State WA Zip 98108

For HOLD at FedEx Location check here

- [ ] Hold Weekday (Not available with FedEx First Overnight)
- [ ] Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

4 Service Delivery commitment may be later in some areas.

- [x] FedEx Priority Overnight (Next business morning)
- [ ] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day* (Second business d.
- [ ] FedEx Govt. Overnight (Authorized user only)
- [ ] DESCRIPTION
- [ ] FedEx Overnight Freight
- [ ] FedEx 2Day Freight

(For packages over 150 pounds. Call for delivery schedule.)

- [ ] NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not availa Minimum cha One pound FedEx 2Day r

5 Packaging

- [ ] FedEx Letter*
- [ ] FedEx Pak*
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other Packagi

Declared value limit $500.

6 Special Handling

Does this shipment contain dangerous goods?
- [ ] Yes (As per attached Shipper's Declaration)
- [ ] Yes (Shipper's Declaration not required)
- [ ] Dry Ice — Dry Ice, 9, UN 1845 III ____ x ____ kg. 904 (Dangerous Goods Shipper's Declaration not required)
- [ ] CA Cargo Aircraft On

7 Payment

Bill to:
- [x] Sender (Account no. in section 1 will be billed)
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Ca Ch

(Enter FedEx account no. or Credit Card no. below)

FedEx Account No.

Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charge:
2	110	$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

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Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. See back of Sender's Copy of this airbill for information and additional terms. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid. See the FedEx Service Guide for further details.

Questions?
Call 1·800·Go·FedEx (1-800-463-3339)

The World On Time

FORM ID NO. 0200

WCSL Rev. Date 10/95 • PART #14 ©1994-95 FedEx • PRINTED IN U

Lauck's Testing Laboratories, Inc.

CHAIN OF CUSTODY RECORD

WORK ORDER ID#

DATE 4/26/96

PAGE 1 OF 1

SUBMITTED AT:
☑ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp.
ADDRESS: 683 Emory Valley Rd
Oak Ridge, TN 37830
ATTENTION: Dr. Michael Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Michael Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / 483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE) Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

TESTS TO PERFORM: VOCs (CLP), SVOCs (CLP), TPH (8015), Metals (CLP)

Note: Water VOCs preserved with HCl

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP)	SVOCs (CLP)	TPH (8015)	Metals (CLP)	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	6-SB18-0.5-2.5	4/26/96	835	✓	✓	✓	✓	3	MS/MSD
	6-SB18-6.4-7.3	↓	925	✓	✓	✓	✓	2	
	6-SB18-8-8.3	↓	935	✓	✓	✓	✓	2	
	6-SB15-0.5-2.5	↓	1029	✓	✓	✓	✓	2	
	6-SB15-2.5-4	↓	1045	✓	✓	✓	✓	2	
	6-SB15-7.7-8.1	↓	1105	✓	✓	✓	✓	2	
	6-TB1	↓	—	✓				1	Trip Blank
	Temperature Blank	—	—	1l amber				1	

Airbill # ~~931~~ 943669 1386

TOTAL NO. OF CONTAINERS: 15

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME | ADDRESS
ATTN: | CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☑ STD. 10-14 DAYS
☐ OTHER

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐

TEMPERATURE: ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE TIME	RECEIVED BY (SIGN AND PRINT)	DATE TIME
Kathy Pritchett Kathryn Pritchett	1835 4/26/96		

CLIENT COPY

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

PAGE 1 OF 1

WORK ORDER ID#

DATE 4/26/96

SUBMITTED AT:

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp.
ADDRESS: 683 Emory Valley Rd.
Oak Ridge, TN 37830
ATTENTION: Dr. Michael Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Michael Ghazizadeh
TELEPHONE/FAX: (423) 483-8026 / 483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE) Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

TESTS TO PERFORM

Water Preservation
VOCs HCl
TPH (GRO) HCl
metals HNO_3

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP)	SVOCs (CLP)	TPH (8015)	metals (CLP)	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	6-RB1	4/26/96	1715	✓	✓	✓	✓	8	
	6-SB17-0.5-2.5		1305	✓	✓	✓	✓	2	
	6-SB17-4.5-5.8		1330	✓	✓	✓	✓	2	
	6-SB17-9.5-9.9		1400	✓	✓	✓	✓	2	Duplicate
	6-TB2	↓	—	✓				1	Trip Blank
	Temperature Blank			1L amber				1	

Duplicate Included

Air Bill # 94364186

TOTAL NO. OF CONTAINERS 16

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME | ADDRESS
ATTN: | CITY, STATE, ZIP

TURNAROUND REQUEST
- ☐ 24-48 HRS (100% SUR)
- ☐ 5 DAYS (50% SUR)
- ☑ STD. 10-14 DAYS
- ☐ OTHER

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA
SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE: ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	1835 4/26/96	/	
/		/	

CLIENT COPY

FEDERAL EXPRESS MULTIPLE PACKAGE SHIPMENT LABELS

SHIPMENT DATE 4/30/96

MASTER AIRBILL NUMBER 9436691412

2 OF 2 DESCRIPTION 6717008304

___ OF ___ DESCRIPTION 6717008313

___ OF ___ DESCRIPTION 6717008322

___ OF ___ DESCRIPTION 6717008331

___ OF ___ DESCRIPTION 6717008347

PART #130266 REV. 4/90 • 1990 F.E.C. GBFE 7/93
SENDER'S COPY FORMAT #073

FedEx USA Airbill Tracking Number 9436691412

Sender's Copy

~~22 100 43906796 6068M~~

1 From (please print)

Date 4/30/96 Sender's FedEx Account Number 1859-6715-8

Sender's Name Dr. Michael Ghazizadeh Phone 423+483-8020

Dept./Floor/Suite/Room

Company OPERATIONAL TECHNOLOGIES

Address 683 EMORY VALLY RD

City OAK RIDGE State TN Zip 37830

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice)

3 To (please print)

Recipient's Name Phone (206) 767-5060

Dept./Floor/Suite/Room

Company Laucks

Address 940 South Harney St.

(To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

City Seattle State WA Zip 98108

For HOLD at FedEx Location check here
- [ ] Hold Weekday (Not available with FedEx First Overnight)
- [ ] Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here
- [ ] (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

4 Service Delivery commitment may be later in some areas.
- [x] FedEx Priority Overnight (Next business morning)
- [ ] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day* (Second business day)
- [ ] FedEx Govt. Overnight (Authorized user only)
- [ ] DESCRIPTION
- [ ] FedEx Overnight Freight
- [ ] FedEx 2Day Freight

(For packages over 150 pounds. Call for delivery schedule.)

- [ ] NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge: One pound FedEx 2Day rate.

5 Packaging
- [ ] FedEx Letter*
- [ ] FedEx Pak*
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other Packaging

*Declared value limit $500.

6 Special Handling

Does this shipment contain dangerous goods?
- [ ] Yes (As per attached Shipper's Declaration)
- [ ] Yes (Shipper's Declaration not required)
- [ ] Dry Ice — Dry Ice, 9, UN 1845 III ___ x ___ kg. 904 (Dangerous Goods Shipper's Declaration not required)
- [ ] CA Cargo Aircraft Only

7 Payment

Bill to:
- [x] Sender (Account no. in section 1 will be billed)
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

(Enter FedEx account no. or Credit Card no. below)

FedEx Account No.

Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
2	106	$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

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Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. See back of Sender's Copy of this airbill for information and additional terms. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid. See the FedEx Service Guide for further details.

Questions? Call 1·800·Go·FedEx (1-800-463-3339)

The World On Time

FORM ID NO. 0200

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Laucks Testing Laboratories, Inc.

CHAIN OF CUSTODY RECORD

WORK ORDER ID#:

DATE: 4/30/96

PAGE 1 OF 1

SUBMITTED AT:
- [x] 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
- [ ] 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp

ADDRESS: 683 Emory Valley Rd. Oak Ridge, TN 37830

ATTENTION: Dr. Michael Ghazizadeh

PROJECT NAME: Great Falls RI

PROJECT CONTACT: Dr. Michael Ghazizadeh

TELEPHONE/FAX: (423) 483-8020 / 483-2800

JOB/P.O. NO.: 8056-101

SAMPLER (SIGNATURE): Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

TESTS TO PERFORM: Note: water Preservation VOCs: HCl TPH (GRO): HCl metals: HNO_3

LAB S/A#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP)	SVOCs (CLP)	TPH (8015)	metals (CLP)		NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	8-SB10-1-3	4/30/96	1609	✓	✓	✓	✓		2	
	8-SB10-4.5-6.5		1620	✓	✓	✓	✓		2	
	8-SB10-9-9.9		1645	✓	✓	✓	✓	Duplicate Included	2	Duplicate
	8-RB2		1815	✓	✓	✓	✓		8	equipment rinsate
	8-TB4		—	✓					1	trip blank
	temperature blank					1 l amber			1	

Air Bill # 94 366 91412

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE

NAME: ADDRESS:

ATTN: CITY, STATE, ZIP:

TURNAROUND REQUEST
- [ ] 24-48 HRS (100% SUR)
- [ ] 5-DAYS (50% SUR)
- [x] STD. 10-14 DAYS
- [ ] OTHER

16 TOTAL NO. OF CONTAINERS

CHAIN OF CUSTODY SEALS? [x] YES [ ] NO [ ] NA

SHIPPED VIA: [ ] UPS [x] FED-EX [ ] BUS [ ] HAND [ ]

TEMPERATURE: [ ] AMBIENT [ ] REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	4/30/96 1630		

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING (SEE BELOW)

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

NAME: Operational Technologies Corp
ADDRESS: 683 Emory Valley Rd.
Dak Ridge, TN 37830
ATTENTION: Dr. Michael Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Michael Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / 483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE): Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

WORK ORDER ID#
DATE 4/30/96

PAGE 1 OF 1

SUBMITTED AT:
☑ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

TESTS TO PERFORM

NOTE: water preservation VOCs: HCl

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP)	SVOCs (CLP)	TPH (8015)	metals (CLP)	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	6-SB16-0.4-3.9	4/30/96	1035	✓	✓	✓	✓	2	
	6-SB16-3.9-4.5	↓	1116	✓	✓	✓	✓	2	glass jars
	6-SB16-8.5-9.5		1135	✓	✓	✓	✓	2	
	8-SB9-1-3		1500	✓	✓	✓	✓	3	MS/MSD
	8-SB9-4.5-5.5		1508	✓	✓	✓	✓	2	
	8-SB9-8.5-9.4		1530	✓	✓	✓	✓	2	
	8-TB3		—	✓				1	Trip Blank
	Temperature Blank	—	—	1-L amber					

Air Bill # 9436691412

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME
ADDRESS
ATTN:
CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5 DAYS (50% SUR)
☑ STD. 10-14 DAYS
☐ OTHER

TOTAL NO. OF CONTAINERS: 14

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐

TEMPERATURE: ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	4/30/96 / 830	/	
/		/	

CLIENT COPY

FEDERAL EXPRESS
MULTIPLE PACKAGE SHIPMENT LABELS

SHIPMENT DATE 4-29-96
MASTER AIRBILL NUMBER 9436691390

2 OF 4 6717008207
DESCRIPTION

3 OF 4 6717008216
DESCRIPTION

4 OF 4 6717008225
DESCRIPTION

OF 6717008234
DESCRIPTION

OF 6717008243
DESCRIPTION

PART #136286 REV. 4/90 © 1990 F.E.C. GBFE 7/93
SENDER'S COPY FORMAT #073

FedEx USA Airbill

Tracking Number 9436691390

Sender's Copy

20 100 43906796 6068M

1 From (please print)

Date 4/24/96 Sender's FedEx Account Number 1859-6715-8

Sender's Name Dr. Michael Grazyk Phone (423)483-8020

Dept./Floor/Suite/Room

Company OPERATIONAL TECHNOLOGIES

Address 683 EMORY VALLY RD

City OAK RIDGE State TN Zip 37830

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice)

3 To (please print)

Recipient's Name Phone (206) 767-5060

Dept./Floor/Suite/Room

Company Laucks Testing Laboratories

Address 940 South Harney St.
(To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

City Seattle State WA Zip 98108

For HOLD at FedEx Location check here
- Hold Weekday (Not available with FedEx First Overnight)
- Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here
(Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

4 Service Delivery commitment may be later in some areas.
- ☑ FedEx Priority Overnight (Next business morning)
- FedEx Standard Overnight (Next business afternoon)
- FedEx 2Day* (Second business day)
- FedEx Govt. Overnight (Authorized user only)
- DESCRIPTION
- FedEx Overnight Freight
- FedEx 2Day Freight

(For packages over 150 pounds. Call for delivery schedule.)
- NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge: One pound FedEx 2Day rate

5 Packaging
- FedEx Letter*
- FedEx Pak*
- FedEx Box
- FedEx Tube
- ☑ Other Packaging

Declared value limit $500

6 Special Handling

Does this shipment contain dangerous goods?
- Yes (As per attached Shipper's Declaration)
- Yes (Shipper's Declaration not required)
- Dry Ice — Dry Ice, 9, UN 1845 III ____ x ____ kg. 904 (Dangerous Goods Shipper's Declaration not required)
- CA Cargo Aircraft Only

7 Payment

Bill to:
- ☑ Sender (Account no. in section 1 will be billed)
- Recipient
- Third Party
- Credit Card
- Cash/Check

(Enter FedEx account no. or Credit Card no. below)

FedEx Account No.

Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
4	189	$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

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Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. See back of Sender's Copy of this airbill for information and additional terms. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid. See the FedEx Service Guide for further details.

Questions?
Call 1·800·Go·FedEx (1-800-463-3339)

The World On Time

FORM ID NO. 0200

WCSL 019
Rev. Date 10/95 • PART #14738
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CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

PAGE 1 OF 1

WORK ORDER ID#

DATE 4/29/96

SUBMITTED AT:
- [x] 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
- [ ] 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING (SEE BELOW)

NAME: Operational Technologies Corp
ADDRESS: 683 Emory Valley Rd, Oak Ridge, TN 37830
ATTENTION: Dr. Michael Ghazizadeh
PROJECT NAME: Great Fall RI
PROJECT CONTACT: Dr. Michael Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / 483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE): Kathy Pritchett
(PRINTED NAME): Kathryn Pritchett

TESTS TO PERFORM: VOCs (CLP), SVOCs (CLP), TPH (8015) GRO, metals (CLP)

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP)	SVOCs (CLP)	TPH (8015) GRO	metals (CLP)	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	7-RB1	4/29/96	1830	✓	✓	✓	✓	8	
	7-TB3	↓	—	✓				1	

Air Bill # 9436691340

TOTAL NO. OF CONTAINERS: 9

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME
ADDRESS
ATTN:
CITY, STATE, ZIP

TURNAROUND REQUEST
- [ ] 24-48 HRS (100% SUR)
- [ ] 5-DAYS (50% SUR)
- [x] STD. 10-14 DAYS
- [ ] OTHER

CHAIN OF CUSTODY SEALS? [x] YES [ ] NO [ ] NA

SHIPPED VIA: [ ] UPS [x] FED-EX [ ] BUS [ ] HAND [ ]

TEMPERATURE: [ ] AMBIENT [ ] REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	4/29/96 1830	/	
/		/	

CLIENT COPY

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

WORK ORDER ID# ____ PAGE 1 OF ____

DATE 4/27/96

SUBMITTED AT:

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp.
ADDRESS: 683 Emory Valley Rd, Oak Ridge, TN 37830
ATTENTION: Dr. Michael Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Michael Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / 483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE): Kathryn Pritchett (PRINTED NAME): Kathryn Pritchett

TESTS TO PERFORM

Note: Water ~~Preset~~ ~~Perset~~ Preservation; VOCs: HCl

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP)	SVOCs (CLP)	TPH (8015)	metals (CLP)	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	7-SB6-0-2	4/27/96	1030	✓	✓	✓	✓	2	
	7-SB6-3.5-5.5	↓	1045	✓	✓	✓	✓	3	MS/MSD
	7-SB6-7.2-8		1104	✓	✓	✓	✓	2	
	7-SB7-1-3		1410	✓	✓	✓	✓	2	
	7-SB7-3.4-5.2		1430	✓	✓	✓	✓	2	
	7-SB7-8-8.3		1450	✓	✓	✓	✓	1	
	7-DW1-1.2-3.2		1515	✓	✓	✓	✓	2	
	7-DW1-3.2-4.2		1525	✓	✓	✓	✓	2	
	7-TB2		—	✓				1	Trip Blank
	Temperature Blank			1l amber				1	

Air Bill # 9436691390

TOTAL NO. OF CONTAINERS: 18

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME ____ ADDRESS ____
ATTN: ____ CITY, STATE, ZIP ____

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☑ STD. 10-14 DAYS
☐ OTHER ____

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA
SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐ ____
TEMPERATURE ____ ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathryn Pritchett Kathryn Pritchett	4/24/96 1830		

CLIENT COPY

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

PAGE 1 OF ___

SUBMITTED AT:

WORK ORDER ID#: ___

DATE: ~~4~~ 4/27/96

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING (SEE BELOW)

NAME: Operational Technologies Corp.
ADDRESS: 683 Emory Valley Rd, Oak Ridge, TN 37830
ATTENTION: Dr. Michael Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Michael Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / 483-2600
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE): Kathryn Pritchett (PRINTED NAME): Kathryn Pritchett

TESTS TO PERFORM

Note: Water ~~Preset~~ ~~Forest~~ VOCs: HCl Preservation

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP)	SVOCs (CLP)	TPH (8015)	metals (CLP)	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	7-SB6-0-2	4/27/96	1030	✓	✓	✓	✓	2	
	7-SB6-3.5-5.5	↓	1045	✓	✓	✓	✓	3	MS/MSD
	7-SB6-7.2-8		1104	✓	✓	✓	✓	2	
	7-SB7-1-3		1410	✓	✓	✓	✓	2	
	7-SB7-3.4-5.2		1430	✓	✓	✓	✓	2	
	7-SB7-8-8.3		1450	✓	✓	✓	✓	1	
	7-DW1-1.2-3.2		1515	✓	✓	✓	✓	2	
	7-DW1-3.2-4.2		1525	✓	✓	✓	✓	2	
	7-TB2		—	✓				1	Trip Blank
	Temperature Blank			1 l amber				1	

Air Bill # 9436691390

KP

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME: ___ ADDRESS: ___
ATTN: ___ CITY, STATE, ZIP: ___

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ ~~5-DAYS (50% SUR)~~
☑ STD. 10-14 DAYS
☐ OTHER ___

TOTAL NO. OF CONTAINERS: 18

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐ ___

TEMPERATURE: ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	4/29/96 1830	/	
/		/	

CLIENT COPY

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

PAGE 1 OF 1

SUBMITTED AT:
- ☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
- ☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp
ADDRESS: 683 Emory Valley Rd. Oak Ridge, TN 37830
ATTENTION: Dr. Michael Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Michael Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / 483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE): Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

WORK ORDER ID#
DATE 4/28/96

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP) HL	SVOCs (CLP)	TPH (8015 GRO/LH)	metals (CLP)	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	6-DW1-W1	4/28/96	1530	✓	✓	✓	✓	8	
	6-TB3	↓	—	✓				1	Trip Blank
	Temperature Blank	—	—	1 L amber				1	

KP

Air Bill # 9436691390

TOTAL NO. OF CONTAINERS: 10

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME / ADDRESS
ATTN: / CITY, STATE, ZIP

TURNAROUND REQUEST
- ☐ 24-48 HRS (100% SUR)
- ☐ ~~5-DAYS~~ (50% SUR)
- ☑ STD. 10-14 DAYS
- ☐ OTHER

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐

TEMPERATURE: ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	4/29/96 1830	/	
/		/	

CLIENT COPY

FedEx *USA Airbill* Tracking Number 9934514402

Sender's Copy

1 From (please print)

Date 5/6/96 Sender's FedEx Account Number 1859-6715-8

Sender's Name KATHY PRITCHETT Phone (406) 791-6178

Dept./Floor/Suite/Room

Company OPTECH

Address 683 EMORY VALLEY RD

City OAK RIDGE State TN Zip 37830

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice)

3 To (please print)

Recipient's Name Phone (206) 7675060

Dept./Floor/Suite/Room

Company LAUCKS TESTING LABORATORIES, INC

Address 940 SOUTH HARNEY ST.
(To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

City SEATTLE State WA Zip 98108

For HOLD at FedEx Location check here
- [ ] Hold Weekday (Not available with FedEx First Overnight)
- [ ] Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here
- [ ] (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. See back of Sender's Copy of this airbill for information and additional terms. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid.

See the FedEx Service Guide for further details.

Questions?
Call 1·800·Go·FedEx (1-800-463-3339)

The World On Time

4 Service Delivery commitment may be later in some areas.
- [x] FedEx Priority Overnight (Next business morning)
- [ ] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day* (Second business day)
- [ ] FedEx Govt. Overnight (Authorized user only)
- [ ] FedEx Overnight Freight
- [ ] FedEx 2Day Freight

(For packages over 150 pounds. Call for delivery schedule.)

- [ ] NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge: One pound FedEx 2Day rate

5 Packaging
- [ ] FedEx Letter*
- [ ] FedEx Pak*
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] ~~Other~~ Packaging

Declared value limit $500.

6 Special Handling

Does this shipment contain dangerous goods?
- [ ] Yes (As per attached Shipper's Declaration)
- [ ] Yes (Shipper's Declaration not required)
- [ ] Dry Ice — Dry Ice, 9, UN 1845 III ____ x ____ kg 904 (Dangerous Goods Shipper's Declaration not required)
- CA [ ] Cargo Aircraft Only

7 Payment

Bill to:
- [x] Sender (Account no. in section 1 will be billed)
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

(Enter FedEx account no. or Credit Card no. below)

FedEx Account No.
Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
1	34	$ .00	$

* When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

232

FORM ID NO. 0200

Rev. Date 10/95 • PART #147382

GBFE 3/96

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

SUBMITTED AT:
☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

WORK ORDER ID#

PAGE 1 OF 1

DATE

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp.
ADDRESS: 683 Emory Valley Rd.
Oak Ridge, TN 37830
ATTENTION: DR. MICHAEL GHAZIZADEH
PROJECT NAME: MANG
PROJECT CONTACT:
TELEPHONE/FAX: 1-423 483-8020
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE): M. Ghazizadeh (PRINTED NAME): M. GHAZIZADEH

TESTS TO PERFORM: VOCs (CLP)

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP)	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	7-MW3-GW1	5/6/96	1025	✓	3	
	* 6-MW1-GW1	↓	1230	✓	3	
	6,7-TB1	5/6/96		✓	3	Trip Blank
	Temp Blank	5/6/96	2:30	NA	1	

Airbill no. 9345144402

TOTAL NO. OF CONTAINERS

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME
ADDRESS
ATTN:
CITY, STATE, ZIP

TURNAROUND REQUEST
☑ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☐ STD. 10-14 DAYS
☐ OTHER

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA
SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE
☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
M. Ghazizadeh / M. GHAZIZADEH	5/6/96 2:30 P.	/	
/		/	

CLIENT COPY

FedEx Federal Express MULTIPLE PACKAGE SHIPMENT LABELS

SHIPMENT DATE: 5-11-96

MASTER AIRBILL NUMBER: 5781416970

2 OF 3	DESCRIPTION	9532989401
3 OF 3	DESCRIPTION	9532989417
OF	DESCRIPTION	9532989426
OF	DESCRIPTION	9532989435
OF	DESCRIPTION	9532989444

PART #136295 REV. 5/94 ©1994 FedEx
SENDER'S COPY FORMAT #206 SRCEF 2/96

FedEx. Federal Express

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 5781416970

5781416970 Equipment Shipment. (1) Grand for 2" tum (3) explosimeter (2) " Spod

SENDER'S COPY

1 SENDER'S FEDERAL EXPRESS ACCOUNT NUMBER: 1859-6715-8 Date: 5/11/96

From (Your Name) Please Print: MICHAEL M. GHAZIZADEH
Your Phone Number (Very Important): (423) 483-8020
Company: OPTECH CORP. Department/Floor No.
Street Address: 683 Emory Valley Road
City: Oak Ridge State: TN ZIP Required: 37830

2 To (Recipient's Name) Please Print: SERVICE DEPARTMENT
Recipient's Phone Number: (513)29
Company: HAZCO SERVICES, INC.
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 2006 SPRINGBORO WEST
City: DAYTON State: OH ZIP Required: 45439

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): P056-101 G.F. RI MANG

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here: Street Address / City / State / ZIP Required

3 PAYMENT: 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check Acct./Credit Card No. Exp. Date

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†): 11 OTHER PACKAGING; 16 FEDEX LETTER*; 12 FEDEX PAK*; 13 FEDEX BOX; 14 FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery†): 51 [X] OTHER PACKAGING; 56 FEDEX LETTER*; 52 FEDEX PAK*; 53 FEDEX BOX; 54 FEDEX TUBE

Economy Two-Day (Delivery by second business day †): 30 ECONOMY* — *Economy Letter Rate not available. Minimum charge: One pound Economy rate.

Government Overnight (Restricted for authorized users only): 46 GOVT LETTER; 41 GOVT PACKAGE

Freight Service (for packages over 150 lbs.): 70 OVERNIGHT FREIGHT** (Confirmed reservation required); 80 TWO-DAY FREIGHT**
† Delivery commitment may be later in some areas. *Declared Value Limit $500. **Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service: 1 HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H); 2 [X] DELIVER WEEKDAY

Saturday Service: 31 HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H); 3 DELIVER SATURDAY (Extra charge) (Not available to all locations); 9 SATURDAY PICK-UP (Extra charge)

Special Handling: 4 DANGEROUS GOODS (Extra charge); 6 DRY ICE — Dangerous Goods Shipper's Declaration not required — Dry Ice, UN 1845, ___ x ___ kg. 904 III; DESCRIPTION; 12 HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	21	
1	10	
1	17	
Total 3	Total 48	Total

DIM SHIPMENT (Chargeable Weight) ___ lbs. L x W x H

Received At: 1 Regular Stop; 2 On-Call Stop; 3 Drop Box; 4 B.S.C.; 5 Station

SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY

Use of this airbill constitutes your agreement to the service conditions in our current Service Guide, available upon request. See back of sender's copy of this airbill for information. Service conditions may vary for Government Overnight Service. See U.S. Government Service Guide for details.

We will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss for a timely claim. Limitations found in the current Federal Express Service Guide apply. Your right to recover from Federal Express for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the declared value specified to the left. Recovery cannot exceed actual documented loss. The maximum Declared Value for FedEx Letter and FedEx Pak packages is $500.

In the event of untimely delivery, Federal Express will at your request and with some limitations refund all transportation charges paid. See Service Guide for further information.

Sender authorizes Federal Express to deliver this shipment without obtaining a delivery signature and shall indemnify and hold harmless Federal Express from any claims resulting therefrom.

7 Release Signature:

Federal / Base Charge / Declared / Other 1 / Other 2 / Total Charges

REVISION / PART #14 / FORMAT 160

© 1993-94 PRINTED U.S.A.

SENDER'S COPY

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

WORK ORDER ID#

DATE 5/15/96

PAGE 1 OF 1

SUBMITTED AT:
☑ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp
ADDRESS: 683 Emory Valley Rd.
Oak Ridge, TN ~~7811~~ 37830
ATTENTION: Dr. Moe Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Moe Ghazizadeh
TELEPHONE/FAX: (423) 483-9620 / 483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE): Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

TESTS TO PERFORM

Note: metals: unfiltered and filtered

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP) HCl	SVOCs (CLP) none	TPH (8015) GRO / DRO	metals (CLP) HNO3	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	8-MW1-GW1	5/15/96	1315	4	2	3	2	11	
	8-MW3-GW1	↓	1415	4	2	3	2	11	
	TB-F	↓	—	3				3	Trip Blank
	Temperature Blank	↓	—	(3) 40-ml VOA				3	Temperature Blank

KP

Air Bill # 0788643216

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME
ADDRESS
ATTN:
CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5 DAYS (50% SUR)
☑ STD. 10-14 DAYS
☐ OTHER

TOTAL NO. OF CONTAINERS

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA
SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE: ☐ AMBIENT ☑ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	5/15/96 1715	/	
/		/	

FedEx USA Airbill

Tracking Number 0780643194

Equipment Shipment

Sender's Copy

1 From (please print)

Date 5/17/96 Sender's FedEx Account Number 1859-6715-8

Sender's Name Dr. Moe Ghazizadeh Phone (423) 483-8020

Company Operational Technologies Corp. Dept./Floor/Suite/Room

Address 683 Emory Valley Rd

City Oak Ridge State TN Zip 37830

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice) 8056-101

3 To (please print)

Recipient's Name Phone (206) 767-5060

Company Laucks Testing Laboratories Inc. Dept./Floor/Suite/Room

Address 940 South Harney St.
(To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

City Seattle State WA Zip 98108

For HOLD at FedEx Location check here

☐ Hold Weekday (Not available with FedEx First Overnight)
☐ Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here

☑ (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. See back of Sender's Copy of this airbill for information and additional terms. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid.
See the FedEx Service Guide for further details.

Questions?
Call 1·800·Go·FedEx (1-800-463-3339)

4 Service Delivery commitment may be later in some areas

☑ FedEx Priority Overnight (Next business morning)
☐ FedEx Standard Overnight (Next business afternoon)
☐ FedEx 2Day* (Second business day)
☐ FedEx Govt. Overnight (Authorized user only)
☐
☐ FedEx Overnight Freight
☐ FedEx 2Day Freight
(For packages over 150 pounds. Call for delivery schedule.)
☐ NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge: One pound FedEx 2Day rate.

5 Packaging

☐ FedEx Letter* ☐ FedEx Pak* (Declared value limit $500) ☐ FedEx Box ☐ FedEx Tube ☑ Other Packaging

6 Special Handling

Does this shipment contain dangerous goods?
☐ Yes (As per attached Shipper's Declaration) ☐ Yes (Shipper's Declaration not required)
☐ Dry Ice — Dry Ice, 9, UN 1845 III ____ x ____ kg. 904 (Dangerous Goods Shipper's Declaration not required)
CA ☐ Cargo Aircraft Only

7 Payment

Bill to: ☑ Sender (Account no. in section 1 will be billed) ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check
(Enter FedEx account no. or Credit Card no. below)

FedEx Account No.
Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
1	31	$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

The World On Time

FORM ID NO. 0200

232

Rev. Date 10/95 • PART #147382

GBFE 4/94

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

SUBMITTED AT:
- [x] 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
- [ ] 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

WORK ORDER ID#:

PAGE 1 OF 1

DATE: 5/17/96

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp.

ADDRESS: 683 Emory Valley Rd. Oak Ridge, TN 37830

ATTENTION: Dr. Moe Ghazizadeh

PROJECT NAME: Great Falls RI

PROJECT CONTACT: Dr. Moe Ghazizadeh

TELEPHONE/FAX: (423) 483-8620 / 483-2800

JOB/P.O. NO.: 8056-101

SAMPLER (SIGNATURE): Kathy Pritchett (PRINTED NAME): Kathryn Pritchett

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP) HCl	SVOCs (CLP) none	TPH (8015) GRO DRO	metals (CLP) HNO3	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	1-MW1-GW1	5/16/96	1830	4	1	2		7	
	8-MW4-GW1RT	5/17/96	1645			1		1	DRO only
	TB-I	↓	—	3				3	Trip Blank
	Temperature Blanks				(3) 40-ml VOA			3	

Air Bill # 0780643194

TOTAL NO. OF CONTAINERS: 14

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE

NAME: ADDRESS:

ATTN: CITY, STATE, ZIP:

TURNAROUND REQUEST
- [ ] 24-48 HRS (100% SUR)
- [ ] 5-DAYS (50% SUR)
- [x] STD. 10-14 DAYS
- [ ] OTHER ______

CHAIN OF CUSTODY SEALS?
- [x] YES [ ] NO [ ] NA

SHIPPED VIA:
- [ ] UPS [x] FED-EX [ ] BUS
- [ ] HAND [ ] ______

TEMPERATURE
- [ ] AMBIENT [x] REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	5/17/96 1810	/	
/		/	

CLIENT COPY

USA Airbill Tracking Number 0780643205

Sender's Copy

(please print) 1/6/96 Sender's FedEx Account Number 1859-6715-8

Dr. Moe Ghazizadeh Phone 423, 483-8020

Dept./Floor/Suite/Room

Company Operational Technologies Corp.

Address 683 Emory Valley Rd

City Oak Ridge State TN Zip 37830

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice) 8056-101

3 To (please print)

Recipient's Name Phone (206) 767-5060

Dept./Floor/Suite/Room

Company Laucks Testing Laboratories, Inc.

Address 940 South Harney St.
(To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

City Seattle State WA Zip 98108

For HOLD at FedEx Location check here
☐ Hold Weekday (Not available with FedEx First Overnight)
☐ Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here
☐ (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. See back of Sender's Copy of this airbill for information and additional terms. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid. See the FedEx Service Guide for further details.

Questions?
Call 1·800·Go·FedEx (1-800-463-3339)

The World On Time

4 Service Delivery commitment may be later in some areas.
☑ FedEx Priority Overnight (Next business morning)
☐ FedEx Standard Overnight (Next business afternoon)
☐ FedEx 2Day* (Second business day)
☐ FedEx Govt. Overnight (Authorized user only)
☐ DESCRIPTION
☐ FedEx Overnight Freight
☐ FedEx 2Day Freight
(For packages over 150 pounds. Call for delivery schedule.)
☐ NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge: One pound FedEx 2Day rate.

5 Packaging
☐ FedEx Letter* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☑ Other Packaging
Declared value limit $500.

6 Special Handling
Does this shipment contain dangerous goods? ☐ Yes (As per attached Shipper's Declaration) ☐ Yes (Shipper's Declaration not required)
☐ Dry Ice Dry Ice, 9, UN 1845 III ____ x ____ kg. 904 (Dangerous Goods Shipper's Declaration not required)
CA ☐ Cargo Aircraft Only

7 Payment
Bill to: ☑ Sender (Account no. in section 1 will be billed) ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check
(Enter FedEx account no. or Credit Card no. below)

FedEx Account No.
Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
		$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

232

FORM ID NO. 0200

Rev. Date 10/95 • PART #147382

GBFE 4/96

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

☑ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

PAGE 1 OF 1

SUBMITTED AT:

WORK ORDER ID#:

DATE: 5/14/96

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp.
ADDRESS: 683 Emory Valley Rd., Oak Ridge, TN 37830
ATTENTION: Dr. Moe Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Moe Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / 483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE): Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

TESTS TO PERFORM

Note: metals: unfiltered and filtered

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP) HCl	SVOCs (CLP)	TPH (8015) GRO DRO	metals (CLP) HNO3	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	8-MW2-GW1	5/14/96	1345	4	2	3	2	11	
	8-MW4-GW1	↓	1630	4	2	3	2	11	
	TB-D	↓	—	3				3	Trip Blanks
	Temperature Blank	↓	—	—	—	(3)	40-ml	3	Temperature Blank

Air Bill # 070643220

KP

INSTRUCTIONS	*BILLING INFORMATION, IF DIFFERENT THAN ABOVE	TURNAROUND REQUEST
1. USE ONE LINE PER SAMPLE. 2. BE SPECIFIC IN TEST REQUESTS. 3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.	NAME: ADDRESS: ATTN: CITY, STATE, ZIP:	☐ 24-48 HRS (100% SUR) ☐ 5-DAYS (50% SUR) ☑ STD. 10-14 DAYS ☐ OTHER

TOTAL NO. OF CONTAINERS: 28

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐

TEMPERATURE: ☐ AMBIENT ☑ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	5/14/96 / 830	/	
/		/	

CLIENT COPY

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

☑ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-126

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp.
ADDRESS: 683 Emory Valley Rd., Oak Ridge, TN 37830
ATTENTION: Dr. Moe Ghazizadeh
PROJECT NAME: Great Fall RI
PROJECT CONTACT: Dr. Moe Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / 483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE): Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

WORK ORDER ID#

DATE 5/14/96

SUBMITTED AT:

TESTS TO PERFORM

Note: Metals: unfiltered and filtered

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP) HCl	SVOCs (CLP) none	TPH (8015) GRO HCl DRO none	metals (CLP) HNO3	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	6-MW1-GW2	5/14/96	810	4	2	3	2	11	
	6-MW3-GW1	↓	10/5	4	2	3	2	11	
	TB-E		—	3				3	Trip Blank
	Temperature Blank	↓	—		(3) 40-ml			3	

Airbill # 078643227

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE

NAME | ADDRESS
ATTN: | CITY, STATE, ZIP

TURNAROUND REQUEST
- ☐ 24-48 HRS (100% SUR)
- ☐ 5 DAYS (50% SUR)
- ☑ STD. 10-14 DAYS
- ☐ OTHER ______

28 TOTAL NO. OF CONTAINERS

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐

TEMPERATURE: ☐ AMBIENT ☑ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	5/14/96 1830	/	
/		/	

CLIENT COPY

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp.
ADDRESS: 683 Emory Valley Rd., Oak Ridge, TN 37830
ATTENTION: Dr. Moe Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Moe Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / 483-2700
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE): Kathy Pritchett (PRINTED NAME): Kathryn Pritchett

WORK ORDER ID#
PAGE 1 OF 1
DATE 5/13/96

SUBMITTED AT:
☑ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

TESTS TO PERFORM: VOCs (CLP) HCl; SVOCs (CLP); TPH (8015) GRO DRO; metals (CLP) HNO3; Metals - unfiltered, filtered

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP) HCl	SVOCs (CLP)	TPH (8015) GRO DRO	metals (CLP) HNO3	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	7-MW4-GW1	5/13/96	1715	4	2	3	2	11	
	7-MW5-GW1	5/13/96	1615	4	2	3	2	11	
	TB-C	5/13/96	—	3				3	Trip Blank
	Temperature Blank	5/13/96		~~(2)~~ ~~TBD~~	(3) 40 ml VOA vials			3	Temperature Blank

Air Bill # 07-8064 0744

KP

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME
ADDRESS
ATTN:
CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5 DAYS (50% SUR)
☑ STD. 10-14 DAYS
☐ OTHER

TOTAL NO. OF CONTAINERS

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA
SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE ☐ AMBIENT ☑ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	5/13/96 1830	/	
/		/	

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5/13/96

0780640744

9532989654

9532989663

9532989672

9532989681

9532989697

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FedEx. USA Airbill

Tracking Number 0780640744

1 From (please print)

Date 5/13/96 Sender's FedEx Account Number 1859-6715-8

Sender's Name D. Mike Ghazyader Phone (423) 483-8020

Dept/Floor/Suite/Room

Company OpTech

Address 683 Emory Valley Rd.

City Oak Ridge State TN Zip 37830

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice) 8056-101

3 To (please print)

Recipient's Name Phone (206) 767-5060

Dept/Floor/Suite/Room

Company Laucks Testing Laboratories, Inc.

Address 940 South Harney St.

(To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

City Seattle State WA Zip 98108

For HOLD at FedEx Location check here

☐ Hold Weekday (Not available with FedEx First Overnight)

☐ Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here

☐ (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

4 Service Delivery commitment may be later in some area

☑ FedEx Priority Overnight (Next business morning)

☐ FedEx Standard (Next business after…

☐ FedEx Govt. Overnight (Authorized user only)

☐

☐ FedEx Overnight Freight

☐ FedEx 2Day Fre…

(For packages over 150 pounds. Call for delivery schedule.)

☐ NEW FedEx First Overnight (Earliest next business morning delivery to select location) (Higher rates apply)

5 Packaging

☐ FedEx Letter*

☐ FedEx Pak*

☐ FedEx Box

*Declared value limit $500.

6 Special Handling

Does this shipment contain dangerous goods? ☐ Yes

☐ Dry Ice

Dry Ice, 9, UN 1845 III ______ x ______ kg. 904

(Dangerous Goods Shipper's Declaration not required)

7 Payment

Bill to: ☑ Sender (Account no. in section 1 will be billed) ☐ Recipient ☐ Thir…

(Enter FedEx account no…

FedEx Account No.

Credit Card No.

Total Packages 5 Total Weight 124 Total D… $

*When declaring a value higher than $100 per package, you pay an additi… CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for fu…

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. See back of Sender's Copy of this airbill for information and additional terms. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid.

See the FedEx Service Guide for further details.

Questions?
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Laucks Testing Laboratories, Inc.

☑ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

CHAIN OF CUSTODY RECORD

WORK ORDER ID#

DATE 5/ /96

PAGE 1 OF 1

SUBMITTED AT:

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp.
ADDRESS: 1083 Emory Valley Rd.
Oak Ridge, TN 37830
ATTENTION: Dr. Moe Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Moe Ghazizadeh
TELEPHONE/FAX: (423) 483-8020/483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE) Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

TESTS TO PERFORM

Note: metals: unfiltered and filtered

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP) HCl	SVOCs (CLP) none	TPH (8015) GRO HCl, DRO none	metals (CLP) HNO3	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	1-MW2-GW2	5/16/96	945	4	2	3	2	11	
	1-MW2-GW2A		1000	4	2	3	2	11	
	TB-H		—	3				3	Trip Blank
	Temperature Blank	—	—	(3) 40-ml VOA				3	Temperature Blank

AirBill # 0780643205

KP

TOTAL NO. OF CONTAINERS 28

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME
ADDRESS
ATTN:
CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☑ STD. 10-14 DAYS
☐ OTHER

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA
SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE: ☐ AMBIENT ☑ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	5/16/96 1730		

CLIENT COPY

FedEx ® MULTIPLE PACKAGE SHIPMENT LABELS
Federal Express

SHIPMENT DATE: 5-14-96

MASTER AIRBILL NUMBER: 0780643220

2 OF 2 — 9532989855 — DESCRIPTION

___ OF ___ — 9532989864 — DESCRIPTION

___ OF ___ — 9532989873 — DESCRIPTION

___ OF ___ — 9532989882 — DESCRIPTION

___ OF ___ — 9532989891 — DESCRIPTION

PART #136295 REV. 5/94 ©1994 FedEx
SENDER'S COPY FORMAT #206 SRCEF 2/96

dEx USA Airbill

Tracking Number 0780643220

Sender's Copy

rom (please print) 5/14/96 Sender's FedEx Account Number 1859-6715-8

Dr. Moe Ghazizadeh Phone 423 483-8020

Operational Technologies Corp. Dept./Floor/Suite/Room

683 Emory Valley Rd

Oak Ridge State TN Zip 37830

r Internal Billing Reference Information
onal) (First 24 characters will appear on invoice)

(please print)

Phone 206 767-5060

Laucks Testing Laboratories, Inc. Dept./Floor/Suite/Room

940 South Harney St,

t FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

Seattle State WA Zip 98108

HOLD at FedEx Location check here
Hold Weekday (Not available with FedEx First Overnight) ☐ Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here
☐ (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

4 Service Delivery commitment may be later in some areas.
☑ FedEx Priority Overnight (Next business morning) ☐ FedEx Standard Overnight (Next business afternoon) ☐ FedEx 2Day* (Second business day)
☐ FedEx Govt. Overnight (Authorized user only) ☐ ___
☐ FedEx Overnight Freight ☐ FedEx 2Day Freight
(For packages over 150 pounds. Call for delivery schedule.)
☐ NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)
*FedEx Letter Rate not available. Minimum charge: One pound FedEx 2Day rate.

5 Packaging
☐ FedEx Letter* ☐ FedEx Pak* (Declared value limit $500.) ☐ FedEx Box ☐ FedEx Tube ☑ Other Packaging

6 Special Handling
Does this shipment contain dangerous goods? ☐ Yes (As per attached Shipper's Declaration) ☐ Yes (Shipper's Declaration not required)
☐ Dry Ice — Dry Ice, 9, UN 1845 III ___ x ___ kg. 904 (Dangerous Goods Shipper's Declaration not required)
CA ☐ Cargo Aircraft Only

7 Payment
Bill to: ☑ Sender (Account no. in section 1 will be billed) ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check
(Enter FedEx account no. or Credit Card no. below)

FedEx Account No. ___
Credit Card No. ___ Exp. Date ___

Total Packages	Total Weight	Total Declared Value*	Total Charges
3	115	$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

ons, Declared Value, and Limit of Liability – By using this Airbill, you agree to the ons in our current Service Guide or U.S. Government Service Guide. Both are ested. See back of Sender's Copy of this airbill for information and additional not be responsible for any claim in excess of $100 per package whether the result , or delay, non-delivery, misdelivery, or misinformation, unless you declare a y an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid.

See the FedEx Service Guide for further details.

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FORM ID NO. 0200

Rev. Date 10/95 • PART #147382
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GBFE 4/96

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp.
ADDRESS: 683 Emory Valley Rd.
Oak Ridge, TN 37830
ATTENTION: Dr. Moe Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Moe Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / 483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE) Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

CHAIN OF CUSTODY RECORD

WORK ORDER ID# ______ PAGE 1 OF 1

DATE 5/14/96

Laucks Testing Laboratories, Inc.

SUBMITTED AT:
☑ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

TESTS TO PERFORM

Note: metals: unfiltered and filtered

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP) HCl	SVOCs (CLP)	TPH (8015) GRO DRO	metals (CLP) HNO3	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	8-MW2-GW1	5/14/96	1345	4	2	3	2	11	
	8-MW4-GW1	↓	1630	4	2	3	2	11	
	TB-D		—	3				3	Trip Blank
	Temperature Blank		—			(3) 40-ml		3	Temperature Blank

Air Bill # 070643220

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME ______ ADDRESS ______
ATTN: ______ CITY, STATE, ZIP ______

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ ~~5-DAYS~~ (50% SUR)
☑ STD. 10-14 DAYS
☐ OTHER ______

28 TOTAL NO. OF CONTAINERS

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA
SHIPPED VIA ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE ☐ AMBIENT ☑ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	5/14/96 / 830	/	
/		/	

CLIENT COPY

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

SUBMITTED AT:
☑ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

WORK ORDER ID#
PAGE 1 OF 1
DATE 5/ /96

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp.
ADDRESS: 1083 Emory Valley Rd., Oak Ridge, TN 37830
ATTENTION: Dr. Moe Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Moe Ghazizadeh
TELEPHONE/FAX: (423) 483-8020/483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE): Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

TESTS TO PERFORM

Note: metals: unfiltered and filtered

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP) HCl	SVOCs (CLP) none	TPH (8015) GRO HCl DRO none	metals (CLP) HNO3	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	1-MW2-GW2	5/16/96	945	4	2	3	2	11	
	1-MW2-GW2A		1000	4	2	3	2	11	
	TB-4		—	3				3	Trip Blank
	Temperature Blank	—	—	(3) 40-ml VOA				3	Temperature Blank

AirBill # 078064 3285

TOTAL NO. OF CONTAINERS: 28

CHAIN OF CUSTODY SEALS? ☑ YES ☐ NO ☐ NA
SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE: ☐ AMBIENT ☑ REPRESENTATIVE

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME
ADDRESS
ATTN:
CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☑ STD. 10-14 DAYS
☐ OTHER

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	5/16/96 1730	/	
/		/	

CLIENT COPY

FedEx® Federal Express MULTIPLE PACKAGE SHIPMENT LABELS

SHIPMENT DATE: 5-14-96

MASTER AIRBILL NUMBER: 0780643220

2 OF 2 — 9533298955 — DESCRIPTION

__ OF __ — 9533298964 — DESCRIPTION

__ OF __ — 9533298973 — DESCRIPTION

__ OF __ — 9533298982 — DESCRIPTION

__ OF __ — 9533298991 — DESCRIPTION

PART #136295 REV. 5/94 ©1994 FedEx
SENDER'S COPY FORMAT #206 SRCEF 2/96

FedEx. USA Airbill Tracking Number 0780643220 **Sender's Copy**

From (please print)

5/14/96 Sender's FedEx Account Number 1859-6715-8

Dr. Moe Ghazizadeh Phone 423 483-8020

Operational Technologies Corp. Dept./Floor/Suite/Room

683 Emory Valley Rd

Oak Ridge State TN Zip 37830

Your Internal Billing Reference Information (optional) (First 24 characters will appear on invoice)

To (please print) Phone 206 767-5060

Laucks Testing Laboratories, Inc. Dept./Floor/Suite/Room

940 South Harney St.

(To HOLD at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

Seattle State WA Zip 98108

HOLD at FedEx Location check here: Hold Weekday (Not available with FedEx First Overnight) ☐ Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here ☐ (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

4 Service Delivery commitment may be later in some areas.

☑ FedEx Priority Overnight (Next business morning) ☐ FedEx Standard Overnight (Next business afternoon) ☐ FedEx 2Day* (Second business day)

☐ FedEx Govt. Overnight (Authorized user only) ☐

☐ FedEx Overnight Freight ☐ FedEx 2Day Freight (For packages over 150 pounds. Call for delivery schedule.)

☐ NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge: One pound FedEx 2Day rate.

5 Packaging

☐ FedEx Letter* ☐ FedEx Pak* (Declared value limit $500) ☐ FedEx Box ☐ FedEx Tube ☑ Other Packaging

6 Special Handling

Does this shipment contain dangerous goods? ☐ Yes (As per attached Shipper's Declaration) ☐ Yes (Shipper's Declaration not required)

☐ Dry Ice Dry Ice, 9, UN 1845 III ____ x ____ kg. 904 (Dangerous Goods Shipper's Declaration not required) CA ☐ Cargo Aircraft Only

7 Payment

Bill to: ☑ Sender (Account no. in section 1 will be billed) ☐ Recipient ☐ Third Party ☐ Credit Card (Enter FedEx account no. or Credit Card no. below) ☐ Cash/Check

FedEx Account No.

Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
3	115	$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

232

Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. See back of Sender's Copy of this airbill for information and additional terms. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid. See the FedEx Service Guide for further details.

Questions? 1-800-Go-FedEx (1-800-463-3339)

The World On Time

FORM ID NO. 0200

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CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

☑ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

WORK ORDER ID#:

DATE: 5/13/96

PAGE 1 OF 1

SUBMITTED AT: ☑ Seattle

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies
ADDRESS: 683 Valley Rd.
Oak Ridge, TN 37830
ATTENTION: Dr. Moe Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Moe Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / 483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE): Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

TESTS TO PERFORM: Free Product HC Fingerprinting

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	Free Product HC Fingerprinting	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	7-MW1-FP	5/13/96	1600	2	2	Fuel Product
	JP 8 Fuel	5/13/96	1720	1 Calibration Standard	1	Standard

Air Bill # 07706407744

TOTAL NO. OF CONTAINERS:

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME:
ADDRESS:
ATTN:
CITY, STATE, ZIP:

TURNAROUND REQUEST
- ☐ ~~24-48 HRS (100% SUR)~~
- ☐ 5 DAYS (50% SUR)
- ☑ STD. 10-14 DAYS
- ☐ OTHER ______

CHAIN OF CUSTODY SEALS: ☐ YES ☐ NO ☐ NA
SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE: ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	5/13/96 1830	/	
/		/	

CLIENT COPY

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

☑ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies Corp.
ADDRESS: ~~638~~ 683 Emory Valley Rd., Oak Ridge, TN 37830
ATTENTION: Dr. Moe Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Moe Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / 483-2800
JOB/P.O. NO.: 8056-10
SAMPLER (SIGNATURE): Kathy Pitteltt (PRINTED NAME): Kathryn Pritchett

WORK ORDER ID#:
PAGE 1 OF 1
DATE: 5/13/96
SUBMITTED AT:

TESTS TO PERFORM: metals – unfiltered, filtered

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP) HCl	SVOCs (CLP)	TPH (8015) GRO, DRO	metals (CLP) HNO3	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	7-MW2-GW1	5/12/96	1500	4	2	3	2	11	
	6-MW2-GW1	5/13/96	1400	4	2	3	2	11	
	TB-B	5/12/96		3				3	Trip Blank
	Temperature Blank	—	(3)	40-ml				3	Temperature Blank

Air Bill # 07864640744

NA

TOTAL NO. OF CONTAINERS: ~~28~~ 25

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME: ADDRESS:
ATTN: CITY, STATE, ZIP:

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☑ STD. 10-14 DAYS
☐ OTHER ______

CHAIN OF CUSTODY SEALS: ☑ YES ☐ NO ☐ NA
SHIPPED VIA: ☐ UPS ☑ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE: ☐ AMBIENT ☑ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pitteltt / Kathryn Pritchett	5/13/96 1830	/	
/		/	

CLIENT COPY

FedEx® MULTIPLE PACKAGE SHIPMENT LABELS

5/13/96

0780640744

9532989654

9532989663

9532989672

9532989681

9532989697

36285 REV. 5/94 ©1994 FedEx
'S COPY FORMAT #206 SRCEF 2/96

FedEx USA Airbill

Tracking Number 0780640744

1 From (please print)

Date 5/13/96 Sender's FedEx Account Number 1859-6715-8

Sender's Name D. Mae Ghazzideh Phone (423) 483-8020 Dept./Floor/Suite/Room

Company OpTech

Address 683 Emory Valley Rd.

City Oak Ridge State TN Zip 37830

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice) 8056-101

3 To (please print)

Recipient's Name Phone (206) 767-5060

Dept./Floor/Suite/Room

Company Laucks Testing Laboratories, Inc.

Address 940 South Harney St.
(To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

City Seattle State WA Zip 98108

For HOLD at FedEx Location check here
- Hold Weekday (Not available with FedEx First Overnight)
- Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here
- (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

4 Service Delivery commitment may be later in some areas
- ☑ FedEx Priority Overnight (Next business morning)
- ☐ FedEx Standard (Next business afternoon)
- ☐ FedEx Govt. Overnight (Authorized user only)
- ☐ FedEx Overnight Freight
- ☐ FedEx 2Day Freight
(For packages over 150 pounds. Call for delivery schedule.)
- ☐ NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

5 Packaging
- ☐ FedEx Letter*
- ☐ FedEx Pak*
- ☐ FedEx Box
*Declared value limit $500.

6 Special Handling

Does this shipment contain dangerous goods? ☐ Yes

☐ Dry Ice Dry Ice, 9, UN 1845 III ______ x ______ kg. 904 (Dangerous Goods Shipper's Declaration not required)

7 Payment

Bill to: ☑ Sender (Account no. in section 1 will be billed) ☐ Recipient ☐ Third (Enter FedEx account no.)

FedEx Account No.

Credit Card No.

Total Packages 3 Total Weight 124 Total D. $

*When declaring a value higher than $100 per package, you pay an additional ... CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further ...

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. See back of Sender's Copy of this airbill for information and additional terms. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid. See the FedEx Service Guide for further details.

FORM ID NO. 0200

Questions?
Call 1·800·Go·FedEx (1-800-463-3339)

The World On Time

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

WORK ORDER ID# ____ PAGE ____ OF ____

DATE ____

SUBMITTED AT:
☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

INFORMATION WILL BE USED FOR REPORTING/BILLING (SEE BELOW)

NAME: Operational Technology Corp
ADDRESS: 635 Emory Valley Rd
Oak Ridge, TN 37830
ATTENTION: Dr. Micheal Ghazizadeh
PROJECT NAME: Great Falls RI.
PROJECT CONTACT: Dr. Micheal Ghazizadeh
TELEPHONE/FAX: (423) 483-8030/(423) 483-2800
JOB/P.O. NO.:
SAMPLER (SIGNATURE) Dan M Brown (PRINTED NAME) Daniel Brown

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs CLP (10/92)	SVOCs CLP (3/90)	TAH (8015) ~~GRO~~ DRO	Metals CLP (3/90) UF	Metals CLP (3/90) Filtered	TPH DRO IL Amber	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	Preservative			HCL	—	HCL	HNO3	HNO3		—	
	7 MW5-GW2	9 Jul 96	1600-1615	4	2	~~2~~ 2	1	1	1	11	
	~~7 ...TB~~	9 Jul 96		2	—						
	~~7 MC~~										
	TEMP Blank									1	

Fed EXP 078640755

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME
ADDRESS
ATTN:
CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☒ STD. 10-14 DAYS
☐ OTHER ____

TOTAL NO. OF CONTAINERS

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐ ____

TEMPERATURE ____ ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Dan M Brown / Daniel M. Brown	9 Jul 96 1800	/	
/		/	

CLIENT COPY

DAYS INN®

FAX HEADER SHEET

101 - 14TH AVENUE NW
GREAT FALLS, MONTANA 59404
(406) 727-6565
FAX: (406) 727-6308

DATE: 7/10/96

TIME: 2:20 P.M.

TO: Ms. Kathy Krefs
Lancks Testing Laboratories, Inc.
940 South Harney Street
Seattle, WA 98108
Tel: 206-767-5060

FAX #: 206-767-5063

OF PAGES: 2
(INCLUDING HEADER SHEET)

To: Ms. Kathy Krefs

FROM: Michael "Moe" Ghazizadeh
683 Emory Valley Road
Oak Ridge, TN 37830
423-483-8020

Optech Corporation
Oak Ridge, TN

SUBJECT: Change of Sample Number

REPLY REQUESTED: YES ______ NO ✓

MESSAGE:
Please change Sample Number 1-MW2-GW2
to 1-MW2-GW3.

Thanks

Michael M. Ghazizadeh, Ph.D.

CHAIN OF CUSTODY RECORD

Laucks
Testing Laboratories, Inc.

SUBMITTED AT:
☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

WORK ORDER ID# ______ PAGE ___ OF ___

DATE ______

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: OptecH Corp
ADDRESS: 683 Emory Valley Rd.
Oak Ridge, TN 37830
ATTENTION: Dr. Michael Ghazizadeh
PROJECT NAME: GREAT Falls RI
PROJECT CONTACT: Dr. Michael Ghazizadeh
TELEPHONE/FAX: 423 483-9020 / 423 483-2800
JOB/P.O. NO.:
SAMPLER (SIGNATURE): Daniel M Brown (PRINTED NAME) Daniel Brown

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP 1/92)	SVOCs (CLP 3/90)	~~TPH~~	Metals (CLP 3/90)	Metals (CLP 3/90) Filtered	TPH - GRO Vial	TPH - DRO 1L Amber	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	Preservative			HCL	—	HCL	HNO3	HNO3	HCL			
	1-mw2-GW2	9Jul96	1320-1330	4	2	~~3~~	1	1	2	1	11	
	7-mw2-GW2	9Jul96	1420-1430	4	2	3	1	1	2	1	11	
	TB-A	[illegible]		~								
	TEMP Blank	9Jul96									1	

Fed EXP 0780640755

Kathy Kreps:
Would you please change this sample number to 1-MW2-GW3.
Thanks
Michael M. Ghazizadeh 7/10/96

TOTAL NO. OF CONTAINERS

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME ADDRESS
ATTN: CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☒ STD. 10-14 DAYS
☐ OTHER ______

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ NA
SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐ ______
TEMPERATURE ______ ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Daniel M Brown / Daniel Brown	9Jul96 1800	/	
/		/	

CLIENT COPY

FedEx USA Airbill

Tracking Number 0780640755

Sender's Copy

1 From (please print)

Date 7/9/96 Sender's FedEx Account Number 1859-6715-8

Sender's Name M. Ghazizadeh Phone ( )

Dept./Floor/Suite/Room

Company Optech Corp.

Address 683 Emory Valley Road

City Oak Ridge State TN Zip 37830

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice)

3 To (please print)

Recipient's Name Phone 206 767-5060

Dept./Floor/Suite/Room

Company Laucks Testing Laboratories, Inc.

Address 940 South Harney Street
(To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

City Seattle State WA Zip 98108

For HOLD at FedEx Location check here

- [ ] Hold Weekday (Not available with FedEx First Overnight)
- [ ] Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here

- [ ] (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. See back of Sender's Copy of this airbill for information and additional terms. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid.
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The World On Time

4 Service Delivery commitment may be later in some areas.

- [x] FedEx Priority Overnight (Next business morning)
- [ ] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day* (Second business day)
- [ ] FedEx Govt. Overnight (Authorized user only)
- [ ]
- [ ] FedEx Overnight Freight
- [ ] FedEx 2Day Freight

(For packages over 150 pounds. Call for delivery schedule.)

- [ ] NEW FedEx First Overnight (Earliest next business morning delivery to select locations) Higher rates apply

*FedEx Letter Rate not available. Minimum charge One pound FedEx 2Day rate.

5 Packaging

- [ ] FedEx Letter*
- [ ] FedEx Pak*
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other Packaging

Declared value limit $500

6 Special Handling

Does this shipment contain dangerous goods?

- [ ] Yes (As per attached Shipper's Declaration)
- [ ] Yes (Shipper's Declaration not required)
- [ ] Dry Ice Dry Ice, 9, UN 1845 III ___ x ___ kg. 904 (Dangerous Goods Shipper's Declaration not required)
- CA [ ] Cargo Aircraft Only

7 Payment

Bill to:

- [x] Sender (Account no. in section 1 will be billed)
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

(Enter FedEx account no. or Credit Card no. below)

FedEx Account No.

Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
2	94	$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See **SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY** section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

232

FORM ID NO. 0200

Rev. Date 10/95 • PART #147382
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FedEx Federal Express **MULTIPLE PACKAGE SHIPMENT LABELS**

*SHIPMENT DATE	7/9/96
MASTER AIRBILL NUMBER	0780640755

2 OF 2 9722619654
DESCRIPTION

___ OF ___ 9722619663
DESCRIPTION

___ OF ___ 9722619672
DESCRIPTION

___ OF ___ 9722619681
DESCRIPTION

___ OF ___ 9722619697
DESCRIPTION

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SENDER'S COPY FORMAT #206 SRCEF 4/96

Laucks Testing Laboratories, Inc.

☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

CHAIN OF CUSTODY RECORD

WORK ORDER ID# ______ PAGE ___ OF ___

DATE ______

SUBMITTED AT:

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operational Technologies INC.
ADDRESS: 683 EMory Valley RD
Oak Ridge, TN 37830
ATTENTION: Dr. Micheal Ghazizadeh
PROJECT NAME: Great falls SI
PROJECT CONTACT: Dr. Micheal Ghazizadeh
TELEPHONE/FAX: (423) 483-8020 / (423) 483-2800
JOB/P.O. NO.:
SAMPLER (SIGNATURE): D M Brown (PRINTED NAME) David Brown

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOCs (CLP 10/92)	SVOC CLP 3/90	TPH 8015 GRO (VJ) DRO	Metals CLP 3/90	Metals CLP 3/90	TPH-8015 No (E)												NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	Preservative			HCL	—	HCL	HNO3	HNO3	—													
	6-MW1-GW3	10/31/96	0915-0920	4	2	2	1	1	1												11	
	6-MW2-GW2	10/31/96	0815-0820	4	2	2	1	1	1												11	
	TB-C	10/31/96	—	3																	3	
	TEMP Blank	10/31/96	1730	1																	1	

F.E. 0786640766

TOTAL NO. OF CONTAINERS

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME ADDRESS
ATTN: CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☐ STD. 10-14 DAYS
☐ OTHER ______

CHAIN OF CUSTODY SEALS? ☐ YES ☒ NO ☐ NA
SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE: ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
D M Brown / Daniel M. Brown	10/31/96 1730		

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

WORK ORDER ID# ______ PAGE ___ OF ___

DATE ______

SUBMITTED AT:

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: OPTECH CORP

ADDRESS: 693 Emory Valley Rd, Oak Ridge, TN. 37830

ATTENTION: Dr. Micheal Ghazizadeh

PROJECT NAME: Great Falls RI

PROJECT CONTACT: Dr. Micheal Ghazizadeh

TELEPHONE/FAX: (423) 483-8020 / 423 483-2800

JOB/P.O. NO.:

SAMPLER (SIGNATURE): [signature] (PRINTED NAME): Daniel M Brown

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOC 12/92 CLP	SVOC 3/90 CLP	TPH 8015	TPH 8015 GRO (V)	TPH 8015 DRO (F)	Metals 3/90 CLP total	Metals 3/90 CLP dissolved	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	Preservative	—	—	HCL	none	HCL	none	HNO3	HNO3		—	
	8-MW2-GW2	10 Jul 96	1345	4	2	2	1	1	1		11	
	8-MW2A-GW2	10 Jul 96	1345	4	2	2	1	1	1		11	Duplicate Analysis
	TB-E	10 Jul 96	—	3							3	
	TEMP Blank	10 Jul 96	1730								1	

F. E
0180640766

TOTAL NO. OF CONTAINERS

INSTRUCTIONS	*BILLING INFORMATION, IF DIFFERENT THAN ABOVE	TURNAROUND REQUEST
1. USE ONE LINE PER SAMPLE. 2. BE SPECIFIC IN TEST REQUESTS. 3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.	NAME / ADDRESS ATTN: / CITY, STATE, ZIP	☐ 24-48 HRS (100% SUR) ☐ 5-DAYS (50% SUR) ☐ STD. 10-14 DAYS ☐ OTHER ____

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐

TEMPERATURE: ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
[signature] / Daniel M Brown	10 Jul 96 / 1730	/	
/		/	

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

WORK ORDER ID# ________ PAGE ____ OF ____

DATE ________

SUBMITTED AT:
☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: OPTECH Corp
ADDRESS: 683 Emory Valley Rd
Oak Ridge, TN, 37830
ATTENTION: Dr Micheal Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr Micheal Ghazizadeh
TELEPHONE/FAX: (423) 483-3030 / 423 483-2800
JOB/P.O. NO.:
SAMPLER (SIGNATURE): D M Brown (PRINTED NAME): Daniel M Brown

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOC 1/90 CLP	SVOC 3/90 CLP	TPH 8015 GRO (V)	TPH - 8015 DRO (E)	Metals 3/90 CLP Total	Metals 3/90 CLP Dissolved											NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	Preservative	—	—	HCL	None	HCL	None	HNO3	HNO3												
	8-MW1-GW2	12Jul96	1550	4	2	2	1	1	1											11	
	8-MW3-GW2	12Jul96	1455	4	2	2	1	1	1											11	
	73-F	12Jul96	—	3																3	
	Temp Blank	12Jul96	1730																	1	

Fed. Exp.
0780640766

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE

NAME ________ ADDRESS ________
ATTN: ________ CITY, STATE, ZIP ________

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☐ STD. 10-14 DAYS
☐ OTHER ________

TOTAL NO. OF CONTAINERS

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ N/A

SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐ ________

TEMPERATURE: ________ ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
D M Brown / Daniel Brown	12Jul96 1730	/	
/		/	

CLIENT COPY

FedEx. *USA Airbill* Tracking Number 0780640766

Sender's Copy

1 From (please print)

Date 7-10-96 Sender's FedEx Account Number 1859-6715-8

Sender's Name M. Ghazizadeh Phone (423-483-8020

Dept./Floor/Suite/Room

Company OpTech Corp.

Address 683 Emory Valley Road

City Oak Ridge State TN Zip 37830

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice)

3 To (please print)

Recipient's Name Phone (206) 767-5060

Dept./Floor/Suite/Room

Company Loucks Testing Laboratories, Inc.

Address 940 South Harney Street
To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

City Seattle State WA Zip 98108

For HOLD at FedEx Location check here
- ☐ Hold Weekday (Not available with FedEx First Overnight)
- ☐ Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here
- ☐ (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

4 Service Delivery commitment may be later in some areas.
- ☒ FedEx Priority Overnight (Next business morning)
- ☐ FedEx Standard Overnight (Next business afternoon)
- ☐ FedEx 2Day* (Second business day)
- ☐ FedEx Govt. Overnight (Authorized user only)
- ☐ DESCRIPTION
- ☐ FedEx Overnight Freight
- ☐ FedEx 2Day Freight

(For packages over 150 pounds. Call for delivery schedule.)

- ☐ NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available Minimum charge One pound FedEx 2Day rate

5 Packaging
- ☐ FedEx Letter*
- ☐ FedEx Pak*
- ☐ FedEx Box
- ☐ FedEx Tube
- ☒ Other Packaging

Declared value limit $500

6 Special Handling

Does this shipment contain dangerous goods?
- ☐ Yes (As per attached Shipper's Declaration)
- ☐ Yes (Shipper's Declaration not required)
- ☐ Dry Ice — Dry Ice, 9, UN 1845 III ____ x ____ kg. 904 (Dangerous Goods Shipper's Declaration not required)
- CA ☐ Cargo Aircraft Only

7 Payment

Bill to:
- ☒ Sender (Account no. in section 1 will be billed)
- ☐ Recipient
- ☐ Third Party
- ☐ Credit Card
- ☐ Cash/Check

(Enter FedEx account no. or Credit Card no. below)

FedEx Account No.

Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
4		$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims

232

Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. See back of Sender's Copy of this airbill for information and additional terms. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid.

See the FedEx Service Guide for further details.

Questions?
Call 1·800·Go·FedEx (1-800-463-3339)

The World On Time

FORM ID NO. 0200

Rev. Date 10/95 • PART #147382 ©1994-95 FedEx • PRINTED IN U.S.A. GBFE 4/96

FedEx® Federal Express MULTIPLE PACKAGE SHIPMENT LABELS

SHIPMENT DATE 7/10/96

MASTER AIRBILL NUMBER 0780640766

2 OF 3 9722619051 DESCRIPTION

3 OF 3 9722619067 DESCRIPTION

4 OF 4 9722619076 DESCRIPTION

__ OF __ 9722619085 DESCRIPTION

__ OF __ 9722619094 DESCRIPTION

PART #136285 REV. 7/94 ©1994 FedEx SENDER'S COPY FORMAT #206 SRCEF 4/96

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

WORK ORDER ID# ________ PAGE ____ OF ____

DATE ________

SUBMITTED AT:

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: OpTech Corp
ADDRESS: 683 Emory Valley Rd
Oak Ridge, TN 37830
ATTENTION: Dr. Michael Ghassemi
PROJECT NAME: GREAT Falls RI
PROJECT CONTACT: Dr. Michael Ghassemi
TELEPHONE/FAX: (423) 483-9020 / (423) 483 2800
JOB/P.O. NO.:
SAMPLER (SIGNATURE): D M Brown (PRINTED NAME): Daniel Brown

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOC CLP 30/92	SVOC CLP 3/90	TPH 8015 - Gas (V)	Metals CLP 3/90 Diss.	Metals CLP 3/90 Tot.	TPH 8015 - Diesel (E)	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	Preservative	—		HCL	—	HCL	HNO_3	HNO_3	—		
	6-MW3-GW2	10Jul96	1000-1004	4	2	2	1	1	1	11	
	6-MW3A-GW2	10Jul96	1000-1004	4	2	2	1	1	1	11	Duplicate Analysis
	TB-D	10Jul96	—	3						3	
	TEMP Blank	10Jul96	1730							1	

Fed Exp
0780640766

INSTRUCTIONS	*BILLING INFORMATION, IF DIFFERENT THAN ABOVE	TURNAROUND REQUEST
1. USE ONE LINE PER SAMPLE. 2. BE SPECIFIC IN TEST REQUESTS. 3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.	NAME / ADDRESS ATTN: / CITY, STATE, ZIP	☐ 24-48 HRS (100% SUR) ☐ 5-DAYS (50% SUR) ☐ STD. 10-14 DAYS ☐ OTHER ______

TOTAL NO. OF CONTAINERS

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐

TEMPERATURE: ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
D M Brown / Daniel M Brown	10Jul96 1730	/	
/		/	

CLIENT COPY

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

WORK ORDER ID#

PAGE 1 OF 1

DATE

SUBMITTED AT:
☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

IS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Optech Corp
ADDRESS: 683 Emory Valley Rd
Oak Ridge, TN, 37830
ATTENTION: Dr. Michael Ghazzadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: D. Michael Ghazzadeh
TELEPHONE/FAX: 423 483-9000 / 423 483-9030
JOB/P.O. NO.:
SAMPLER (SIGNATURE): D M Brown (PRINTED NAME): Daniel M Brown

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOA 10/12 CLP	SVOA 3/90 CLP	TPH - GRO (V)	TPH - DRO (E)	Metals 3/90 CLP Total	Metals 3/90 CLP Diss												NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	Preservative	—	—	HCL	—	HCL	—	HNO3	HNO3													
	Containers	—	—	40 ml	1L Amber	40 ml	1L Amber	1L Poly	1L Poly													
	DCPW-1	11/3/96	1300	4	2	2	1	1	0												10	
	PAPW-1		1300	4	2	2	1	1	0												10	
	TB-I		1300	3																	3	
	Temp Blank		1300	1																	1	

TOTAL NO. OF CONTAINERS

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME / ADDRESS
ATTN: / CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☐ STD. 10-14 DAYS
☐ OTHER ______

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ NA
SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE
☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
D M Brown / Daniel M Brown	11/3/96 1300	/	
/		/	

CLIENT COPY

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

WORK ORDER ID# ______ PAGE ____ OF ____

DATE ______

SUBMITTED AT:

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: OPTECH Corp
ADDRESS: 683 Emory Valley Rd
Oak Ridge, TN. 37830
ATTENTION: Dr Micheal G
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr Micheal G.
TELEPHONE/FAX: 423 483-8000 / 423 483-2900
JOB/P.O. NO.:
SAMPLER (SIGNATURE) (PRINTED NAME) Daniel M Brown

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOA 1/42 CLP	SVOA 3/40 CLP	TPH - GRO (V)	TPH - DRO (E)	Metals - 3/40 CLP	Metals 3/40 CLP											NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	Preservative			HCL	—	HCL	—	Hno3	HNO3												
	Container			40 ml	1L Amb	40 ml	1L Amb	1L	1L poly												
	FB-DI-GW2	11Jul96	1340	4	2	2	1	1	2											10	
	FB-PW-GW2	11	1400	4	2	2	1	1	2											10	
	TB-G			3																3	
	Temp Blank																				

TOTAL NO. OF CONTAINERS

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME ADDRESS
ATTN: CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☐ STD. 10-14 DAYS
☐ OTHER ______

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐ ______

TEMPERATURE ______ ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE TIME	RECEIVED BY (SIGN AND PRINT)	DATE TIME
Daniel M Brown / Daniel M Brown	11 Jul 96 1800	/	
/		/	

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.
☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

WORK ORDER ID# ____ PAGE ____ OF ____

DATE ____

SUBMITTED AT:

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: OPTECH Corp
ADDRESS: 683 Emory Valley Rd
Oak Ridge, TN. 37830
ATTENTION: Dr Michael G.
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Michael G.
TELEPHONE/FAX: 423 483-8000 / 423 483-3900
JOB/P.O. NO.:
SAMPLER (SIGNATURE): [signature] (PRINTED NAME) Daniel M Brown

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOA 1/42 CLP	SVOA 3/90 CLP	TPH - GRO (V)	TPH - DRO (E)	Metals - 3/90 CLP	Metals 3/90 CLP	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	Preservative			HCL	—	HCL	—	Hg	HNO3		
	Container			40 ml	1L Amber	40 ml	1L Amber	1L poly	1L poly		
	FB-DI-GW2	11Jul96	1340	4	2	2	1	1	R	10	
	FB-PW-GW2	"	1400	4	2	2	1	1	R	10	
	TB-G			3						3	
	Trip Blank										

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME ADDRESS
ATTN: CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☐ STD. 10-14 DAYS
☐ OTHER ____

TOTAL NO. OF CONTAINERS

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ NA
SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE ____ ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
[signature] / Daniel M Brown	11 Jul 96 / 1800	/	
/		/	

CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc.

WORK ORDER ID#

PAGE 1 OF 1

DATE

SUBMITTED AT:
- ☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
- ☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: OPTECH CORP
ADDRESS: 683 Emory Valley Rd
Oak Ridge, TN 37830
ATTENTION: Dr. Michael G
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Michael G.
TELEPHONE/FAX: 423 483 9030 / 423 483 2900
JOB/P.O. NO.:
SAMPLER (SIGNATURE): D M Brown (PRINTED NAME): Daniel Brown

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOA 1/92 CLP	SVOA 3/90 CLP	TPH-Gas (V)	TPH-Diesel (E)	Metals 3/90 CLP Total	Metals 3/90 CLP Dissolved											NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	Preservative	—	—	HCl	None	HCl	None	HNO3	HNO3												
	Container	—	—	40 ml	1L Amber	40 ml	1L Amber	Poly 1L	Poly 1L												
	1-MW1-GW2	11Jul96	0950	4	2	2	1	1	1											11	
	7-MW4-GW2	11	0900	4	2	2	1	1	1											11	
	TB-H	11Jul96	1500	3																3	
	Temp Blank	11	1500	1																1	

TOTAL NO. OF CONTAINERS

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME
ADDRESS
ATTN:
CITY, STATE, ZIP

TURNAROUND REQUEST
- ☐ 24-48 HRS (100% SUR)
- ☐ 5-DAYS (50% SUR)
- ☐ STD. 10-14 DAYS
- ☐ OTHER ________

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐ ________

TEMPERATURE ________ ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
D M Brown / Daniel M Brown	11 Jul 96 / 1900	/	
/		/	

CLIENT COPY

FedEx. Federal Express **MULTIPLE PACKAGE SHIPMENT LABELS**

SHIPMENT DATE	11 Jul 96
MASTER AIRBILL NUMBER	0780640770

2 OF 4 | 972 2621 456

DESCRIPTION ______

3 OF 4 | 972 2621 465

DESCRIPTION ______

4 OF 4 | 972 2621 474

DESCRIPTION ______

___ OF ___ | 972 2621 483

DESCRIPTION ______

___ OF ___ | 972 2621 492

DESCRIPTION ______

PART #136295 REV. 7/94 ©1994 FedEx
SENDER'S COPY FORMAT #206 SRCEF 4/96

FedEx USA Airbill

Tracking Number 0780640770

Sender's Copy

1 From (please print)

Date 7/11/96 Sender's FedEx Account Number 1859-6715-8

Sender's Name M. Ghazizadeh Phone (423) 483-8020

Dept/Floor/Suite/Room

Company OPTech Corp.

Address 683 Emory Valley Road

City Oak Ridge State TN Zip 37830

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice)

3 To (please print)

Recipient's Name Phone (206) 767-5060

Dept/Floor/Suite/Room

Company Lauck's Testing Laboratories, Inc.

Address 940 South Harney street

(To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

City Seattle State WA Zip 98108

For HOLD at FedEx Location check here

- [ ] Hold Weekday (Not available with FedEx First Overnight)
- [ ] Hold Saturday (Not available at all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

For Saturday Delivery check here

- [ ] (Extra Charge. Not available to all locations) (Not available with FedEx First Overnight or FedEx Standard Overnight)

Service Conditions, Declared Value, and Limit of Liability – By using this Airbill, you agree to the service conditions in our current Service Guide or U.S. Government Service Guide. Both are available on request. See back of Sender's Copy of this airbill for information and additional terms. We will not be responsible for any claim in excess of $100 per package whether the result of loss, damage, or delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss in a timely manner. Your right to recover from us for any loss includes intrinsic value of the package, loss of sales, interest, profit, attorney's fees, costs, and other forms of damage, whether direct, incidental, consequential, or special, and is limited to the greater of $100 or the declared value but cannot exceed actual documented loss. The maximum declared value for any FedEx Letter and FedEx Pak is $500. Federal Express may, upon your request, and with some limitations, refund all transportation charges paid.

See the FedEx Service Guide for further details.

Questions?
Call 1·800·Go·FedEx (1-800-463-3339)

4 Service Delivery commitment may be later in some areas

- [X] FedEx Priority Overnight (Next business morning)
- [X] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day* (Second business day)
- [ ] FedEx Govt. Overnight (Authorized user only)
- [ ] DESCRIPTION
- [ ] FedEx Overnight Freight
- [ ] FedEx 2Day Freight

(For packages over 150 pounds. Call for delivery schedule.)

- [ ] NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available. Minimum charge One pound FedEx 2Day rate

5 Packaging

- [ ] FedEx Letter*
- [ ] FedEx Pak*
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other Packaging

Declared value limit $500

6 Special Handling

Does this shipment contain dangerous goods?

- [ ] Yes (As per attached Shipper's Declaration)
- [ ] Yes (Shipper's Declaration not required)
- [ ] Dry Ice — Dry Ice, 9, UN 1845 III ____ x ____ kg. 904 (Dangerous Goods Shipper's Declaration not required)
- CA [ ] Cargo Aircraft Only

7 Payment

Bill to:

- [X] Sender (Account no. in section 1 will be billed)
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

(Enter FedEx account no. or Credit Card no. below)

FedEx Account No.

Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
4	202	$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

232

FORM ID NO
0200

The World On Time

Rev. Date 10/95 • PART #147382

GBFE 4/96

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: OPTECH CORP
ADDRESS: 683 Emory Valley Rd.
Oak Ridge TN 37830
ATTENTION: Dr. Micheal G
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Micheal G
TELEPHONE/FAX: 423 483-9020 / 423-483-2300
JOB/P.O. NO.:
SAMPLER (SIGNATURE) (PRINTED NAME) Daniel Brown

CHAIN OF CUSTODY RECORD

WORK ORDER ID# ______ PAGE 1 OF 1

DATE ______

Laucks Testing Laboratories, Inc.

SUBMITTED AT:
☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	VOA	SVOC	TPH	Metals			VOA-TCLP	Metals-TCLP	SVOA-TCLP	Ignitability Corrosivity Reactivity S2- CN-							NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	Containers	—	—	2oz	8oz	8oz	8oz			2oz	8oz	8oz	8oz							—	Soil matrix
	MANG-SS1-~~01~~ 0'-1'	11Jul96	1500	1	1 ✓	✓	1													3	SVOC/TPH Combined
	MANG-SS2-~~02~~ 0'-1'	"	1505	1	1 ✓	✓	1													3	" " "
	MANG-SS3-~~01~~ 0'-1'	"	1510	1	1 ✓	✓	1													3	" " "
	MANG-DPS-1	"	1600							1	1	1	1							4	
	MANG-DC-S6	11Jul96	0640 pm							1	1	1	1							4	Composited Samples
	MANG-DC-S7	"	[illegible]							1	1	1	1							4	
	MANG-DC-S8	"	[illegible]							1	1	1	1							4	
	MANG-DC-S7 Dup	11Jul96	0800 pm							1	1	1	1							4	QA/QC Hold
	MANG-DC-S7-MS	"	"							1	1	1	1							4	QA/QC Hold
	MANG-DC-S7-MSD	"	"							1	1	1	1							4	QA/QC Hold
	TB-K	12Jul96	1800	3																3	3 VOAs
	TEMP Blank	12Jul96	1800																	~~3~~ 1	1 Temp Blank

TOTAL NO. OF CONTAINERS

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME ADDRESS
ATTN: CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☐ STD. 10-14 DAYS
☐ OTHER ______

CHAIN OF CUSTODY SEALS ☐ YES ☐ NO ☐ N/A
SHIPPED VIA ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE ______
☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
/ Daniel Brown	12Jul96 1800	/	
/		/	

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Sender's Copy

1 From (please print)

Date 12 Jul 96 Sender's FedEx Account Number 1859-6715-8

Sender's Name M. Ghazizadeh Phone (423) 483-8020

Dept./Floor/Suite/Room

Company Optech Corp.

Address 683 Emory Valley Road

City Oak Ridge State TN Zip 37830

2 Your Internal Billing Reference Information (Optional) (First 24 characters will appear on invoice)

3 To (please print)

Recipient's Name Phone (206) 767-5060

Dept./Floor/Suite/Room

Company Laucks Testing Laboratories, Inc.

Address 940 South Harney Street (To "HOLD" at FedEx location, print FedEx address here) (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

City Seattle State WA Zip 98108

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See the FedEx Service Guide for further details.

4 Service Delivery commitment may be later in some areas

- [x] FedEx Priority Overnight (Next business morning)
- [ ] FedEx Standard Overnight (Next business afternoon)
- [ ] FedEx 2Day* (Second business day)
- [ ] FedEx Govt. Overnight (Authorized user only)
- [ ]
- [ ] FedEx Overnight Freight
- [ ] FedEx 2Day Freight

(For packages over 150 pounds Call for delivery schedule)

- [ ] NEW FedEx First Overnight (Earliest next business morning delivery to select locations) (Higher rates apply)

*FedEx Letter Rate not available Minimum charge One pound FedEx 2Day rate

5 Packaging

- [ ] FedEx Letter*
- [ ] FedEx Pak*
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other Packaging

Declared value limit $500

6 Special Handling

Does this shipment contain dangerous goods?

- [ ] Yes (As per attached Shipper's Declaration)
- [ ] Yes (Shipper's Declaration not required)
- [ ] Dry Ice — Dry Ice, 9, UN 1845 III ____ x ____ kg 904 (Dangerous Goods Shipper's Declaration not required)
- [ ] CA Cargo Aircraft Only

7 Payment

Bill to:

- [x] Sender (Account no. in section 1 will be billed)
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

(Enter FedEx account no. or Credit Card no. below)

FedEx Account No.

Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value*	Total Charges
1	52	$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims

232

Questions?
Call 1·800·Go·FedEx (1-800-463-3339)

The World On Time

FORM ID NO 0200

CHAIN OF CUSTODY RECORD

Lauck's Testing Laboratories, Inc. 4/24/96

INTERNAL

PAGE 1 OF 3

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME: Operation Technologies Corp.
ADDRESS: 683 Emory Valley Rd.
Oak Ridge, TN 37830
ATTENTION: Dr. Michael Ghazizadeh
PROJECT NAME: Great Falls RI
PROJECT CONTACT: Dr. Michael Ghazizadeh
TELEPHONE/FAX: (423) 483-8026 / 483-2800
JOB/P.O. NO.: 8056-101
SAMPLER (SIGNATURE) Kathy Pritchett (PRINTED NAME) Kathryn Pritchett

WORK ORDER ID#
DATE 4/29/96

SUBMITTED AT:
☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	FIELD SCREEN 8021	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	6-DW1-4.1-4.6	4/29/96		✓		
	7-SB6-7.2-8			✓		
	7-SB5-4.5-5.4			✓		
	7-SB5-8-8.6			✓		
	6-DW1-7.3-7.6			✓		
	7-DW1-1.2-3.2			✓		
	7-DW1-3.2-4.2			✓		
	7-SB7-8-8.3			✓		
	7-SB5-1-3			✓		
	7-SB6-3.5-5.5			✓		
	7-SB7-1-3			✓		
	8-SB8-9.5-10.5			✓		
	8-SB6-0.5-2.4			✓		
	8-SB8-4.5-5.5			✓		
	8-SB8-0.5-2.5			✓		

TOTAL NO. OF CONTAINERS

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME
ADDRESS
ATTN:
CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☐ STD. 10-14 DAYS
☐ OTHER

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ NA
SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐
TEMPERATURE
☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / Kathryn Pritchett	1916 4/29/96	/	
/		/	

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CHAIN OF CUSTODY RECORD

INTERNAL

Laucks Testing Laboratories, Inc. 4/29/96

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WORK ORDER ID#

DATE 4/24/96

PAGE 3 OF 3

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THIS INFORMATION WILL BE USED FOR REPORTING/BILLING (SEE BELOW)

NAME:

ADDRESS:

ATTENTION:

PROJECT NAME:

PROJECT CONTACT: Same

TELEPHONE/FAX:

JOB/P.O. NO.:

SAMPLER (SIGNATURE) Kathy Pritchett (PRINTED NAME) KAthryn Pritchett

TESTS TO PERFORM: FIELD SCREEN MOD 8021

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	FIELD SCREEN MOD 8021	NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	7-SBG-0-2	4/29/96				

TOTAL NO. OF CONTAINERS

INSTRUCTIONS

1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

***BILLING INFORMATION, IF DIFFERENT THAN ABOVE**

NAME

ADDRESS

ATTN:

CITY, STATE, ZIP

TURNAROUND REQUEST

☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☐ STD. 10-14 DAYS
☐ OTHER

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐

TEMPERATURE: ☐ AMBIENT ☐ REPRESENTATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathy Pritchett / KAthryn Pritchett	4/29/96 1916	/	
/		/	

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CHAIN OF CUSTODY RECORD

Laucks Testing Laboratories, Inc. 4/29/96

INTERNAL

PAGE 2 OF 3

WORK ORDER ID#

DATE 4/24/96

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☐ 1106 Ledwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1265

THIS INFORMATION WILL BE USED FOR REPORTING/BILLING* (SEE BELOW)

NAME:
ADDRESS:
ATTENTION: KP
PROJECT NAME:
PROJECT CONTACT:
TELEPHONE/FAX: Same
JOB/P.O. NO.:
SAMPLER (SIGNATURE) Kathryn Pritchett (PRINTED NAME) Kathryn Pritchett

TESTS TO PERFORM

LAB SA#	SAMPLE ID / LOCATION	DATE	TIME	MOD 8021 FIELD SCREEN																NO. OF CONTAINERS	OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS
	8-SB6-9.5-10.3	4/29/96		✓																	
	7-SB5-4.5-5.4			✓																	
	8-SB6-4.5-5.7			✓																	
	8-SB7-8.9-10.3			✓																	
	8-SB7-4.5-5.8			✓																	
	8-SB7-0.5-2.5			✓																	
	6-SB15-0.5-2.5			✓																	
	6-SB15-7.7-8.1			✓																	
	6-SB18-8-8.3			✓																	
	6-SB18-0.5-2.5			✓																	
	6-SB17-9.5-9.9			✓																	
	6-SB17-0.5-2.5			✓																	
	6-SB17-4.5-5.8			✓																	
	6-SB18-4.5-5.2			✓																	
	6-SB15-2.5-4			✓																	

TOTAL NO. OF CONTAINERS

KP

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

*BILLING INFORMATION, IF DIFFERENT THAN ABOVE
NAME
ADDRESS
ATTN:
CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☐ STD. 10-14 DAYS
☐ OTHER

CHAIN OF CUSTODY SEALS?
☐ YES ☐ NO ☐ NA

SHIPPED VIA:
☐ UPS ☐ FED-EX ☐ BUS
☐ HAND ☐

TEMPERATURE:
☐ AMBIENT ☐ REFRIGERATIVE

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
Kathryn Pritchett / Kathryn Pritchett	4/24/96 1916	/	
/		/	

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APPENDIX G

GEOTECHNICAL DATA

CORE LABORATORIES

CORELAB

Operational Technologies
OT Project Name: 8056-101

CL File No.: 57111-96124

Geotechnical Analysis Results

Sample ID	Sample Location	Date\Time Sampled	Permeability			Total Porosity	Moisture Content		Bulk Density		Specific Gravity[7]	Median Grain Size (Trask)	Total Organic Carbon
			Specific Kair[1]	Empirical Intrinsic[2] K∞	Empirical Intrinsic[3] K∞		Saturation	ASTM D-2216[4]	Dry[5]	Natural[6]			
			md	md	cm/sec	%	% PV	%	gm/cc	gm/cc	gm/cc	mm	mg/kg
6-SB15	4.5-5.2	4/26\1055	192	179	$1.5 * 10^{-4}$	27.2	67.2	10.5	1.93	2.12	2.66	0.0722	420
6-SB17	6.1-6.4	4/26\1355	145	133	$1.1 * 10^{-4}$	28.3	57.9	8.6	1.90	2.06	2.65	0.0684	1000
6-SB18	2.5-3.5	4/26\----	7690	7570	$6.5 * 10^{-3}$	33.3	35.7	6.4	1.77	1.89	2.66	0.2574	1300
6-SB17	2.5-3.5	4/26\1320	1395	1345	$1.2 * 10^{-3}$	29.8	55.0	9.2	1.88	2.03	2.65	0.1562	320
8-SB7	6.0-6.9	4/25\1443	107	96	$8.2 * 10^{-6}$	24.4	69.3	8.5	2.01	2.18	2.66	0.1508	7900
8-SB6	6.0-6.7	4/25\1205	25	21	$1.8 * 10^{-5}$	23.4	79.8	9.3	2.04	2.22	2.66	0.1460	250
8-SB7	2.5-3.5	4/25\1420	86	76	$6.5 * 10^{-6}$	28.0	90.0	13.1	1.91	2.16	2.65	0.1607	220
8-SB6	2.5-3.5	4/25\1140	58	50	$4.3 * 10^{-6}$	29.1	78.4	12.4	1.87	2.10	2.64	0.1308	2000

1 Measured and calculated using steady-state methods as described in API RP-40, <u>API Recommended Practice for Core-Analysis Procedure</u>, 1960.

2 Calculated from specific permeability using mathmatical relationship $K\infty = 0.68(\text{Kair})^{1.06}$

3 $K\infty(\text{cm/sec}) = K\infty(\text{md}) * (8.58 * 10^{-7})$

4 [(Water Mass)/(Dry Matrix Mass)] * 100

5 (Dry Sample Mass)/(Bulk Volume)

6 (Fresh Sample Mass)/(Bulk Volume)

7 (Dry Matrix Mass)/(Dry Matrix Volume)

Laucks Testing Laboratories, Inc. MG

CHAIN OF CUSTODY RECORD

WORK ORDER ID# ____ PAGE 1 OF 1

DATE 4/29/96

SUBMITTED AT:
☐ 940 South Harney St., Seattle, WA 98108 (206) 767-5060 FAX 767-5063
☐ 1105 Fruitwich Ave., Yakima, WA 98902 (509) 248-4695 FAX 452-1135

S INFORMATION WILL BE USED FOR REPORTING/BILLING (SEE BELOW)

ME: M. GHAZIZADEH
DRESS: 683 Emory Valley Road
Oak Ridge, TN 37819
TENTION: Moe
OJECT NAME: 8056-101
OJECT CONTACT: Moe
LEPHONE/FAX: 423-483-8020 423-483-9800
B/P.O. NO.:
MPLER (SIGNATURE) M. Ghazizadeh (PRINTED NAME) M. Ghazizadeh

TESTS TO PERFORM

SAMPLE ID / LOCATION		DATE	TIME	Grain size	Moisture Content	Porosity	Specific Gravity	Total Organic Carbon	Permeability
(1) 6-SB15	4.5-5.2	4/26	10:55a	✓	✓	✓	✓	✓	✓
(2) 6-SB17	6.1-6.4	"	13:55p	✓	✓	✓	✓	✓	✓
(2) 6-SB18	2.5-3.5	"	—	✓	✓	✓	✓	✓	✓
(2) 6-SB17	2.5-3.5	"	13:20p	✓	✓	✓	✓	✓	✓
(2) 8-SB7	6.0-6.9	4/25	14:43p	✓	✓	✓	✓	✓	✓
(2) 8-SB6	6.0-6.7	4/25	12:05p	✓	✓	✓	✓	✓	✓
(2) 8-SB7	2.5-3.5	4/25	14:20p	✓	✓	✓	✓	✓	✓
(2) 8-SB6	2.5-3.5	4/25	11:40a	✓	✓	✓	✓	✓	✓

M. Ghazizadeh

CLP# 96124

GeoTech. CD is only information and a lab. This C.O.C for sample to Norm a.C.O.C doesn't apply to C.O.C Proced.

M. Ghazizadeh

OBSERVATIONS, COMMENTS, SPECIAL INSTRUCTIONS

if have any question, Call David Bunn at opTech, or office 423-483-8020

NO. OF CONTAINERS

M. Ghazizadeh

TOTAL NO. OF CONTAINERS

CHAIN OF CUSTODY SEALS? ☐ YES ☐ NO ☐ NA

SHIPPED VIA: ☐ UPS ☐ FED-EX ☐ BUS ☐ HAND ☐ ____

TEMPERATURE ____ ☐ AMBIENT ☐ REPRESENTATIVE

INSTRUCTIONS
1. USE ONE LINE PER SAMPLE.
2. BE SPECIFIC IN TEST REQUESTS.
3. CHECK OFF TESTS TO BE PERFORMED FOR EACH SAMPLE.

BILLING INFORMATION IF DIFFERENT THAN ABOVE
NAME Same ADDRESS
ATTN: Same CITY, STATE, ZIP

TURNAROUND REQUEST
☐ 24-48 HRS (100% SUR)
☐ 5-DAYS (50% SUR)
☒ STD. 10-14 DAYS
☐ OTHER ____

RELINQUISHED BY (SIGN AND PRINT)	DATE / TIME	RECEIVED BY (SIGN AND PRINT)	DATE / TIME
M. Ghazizadeh . M. GHAZIZADEH	~~4/29/96~~ ~~9:20~~ MG 5/1/96 3.30 P.M.	Gil Casebar - Core Lab 2:30 PM 5-02/96	

FINAL REPORT COPY

APPENDIX H

AQUIFER SLUG TEST

APPENDIX H
AQUIFER SLUG TEST DATA ANALYSIS

X.1 INTRODUCTION

Aquifer slug tests on seven monitor wells were performed to investigate the hydraulic properties of the fine-grained sandstone/siltstone bedrock. A detailed description of the data collection and analysis is presented in the following sections.

The slug test method is used to obtain data necessary to calculate the hydraulic conductivity of the subsurface material around the screened portion of a monitor well. The technique is based on measurements of the water level as a function of time after withdrawing a slug of known volume from the monitor well.

X.2 AQUIFER SLUG TEST PROCEDURE

The equipment used for slug testing included a Hermit Environmental Data Logger model SE1000C (serial #1KC-831), manufactured by *In Situ*, Inc. of Laramie, Wyoming. Also used was a pressure transducer model PTD-260 (serial #203217), manufactured by *In Situ*, Inc. Either an acrylic slug (1.25 inches in diameter and 4 feet in length) or a polyvinyl chloride slug (1.25 inches in diameter and 2.5 feet in length) was used to produce the initial water displacement.

Prior to testing, the monitor well was developed and the water level allowed to stabilize. The slug was decontaminated using standard procedures prior to performing the slug test.

Immediately upon opening, the headspace of the monitor well to be slug tested was tested for volatile organic vapors using a photoionization detector. Next, the initial water level was measured and recorded in the field logbook and the pressure transducer was placed in the monitor well and allowed to equilibrate. The proper operating parameters such as time, date, test number, sample rate, number of inputs, data type, and scale factor and offset values of the transducer were inserted to properly program the data logger for the slug test. The decontaminated slug was rapidly lowered into the monitor well in such a manner as to minimize turbulence and splashing. The injection of the slug created a nearly instantaneous rise in the

water level or hydraulic head as well as some transient oscillations (minimized by the smooth slug injection). After the initial rise, the water level of the monitor well dropped as it returned to equilibrium. The water-level altitudes were recorded by the data logger.

After equilibrium was attained, the slug was rapidly and smoothly removed from the monitor well and the subsequent rise of the water level in the monitor well versus the time since the start of the test was also recorded by the data logger.

After the slug test was completed, the data was downloaded onto a computer and printed out by a portable printer.

X.3 SLUG TEST DATA ANALYSIS METHOD

The method used for analysis of the slug test data depends on the setting of the monitor well being tested. For monitor wells in unconfined conditions, the Bouwer and Rice (1976) method is the appropriate method to use for reduction of the slug test data to determine values of hydraulic conductivity. The Bouwer and Rice method can also be used for semi-confined and confined conditions (Bouwer, 1989). The static water table intersected below the top of the screen; therefore, the slug test data were obtained from monitor wells that are screened in unconfined conditions.

The data plots and data reduction for the Bouwer and Rice method were accomplished using the AQTESOLV software package Version 2.0 developed by Geraghty & Miller (1994).

The slug test data analyses using Bouwer and Rice (1976) method is presented in this section (Appendix X). The slug test results are presented in Section X.4.

The method described by Bouwer and Rice (1976) is used to calculate the hydraulic conductivity of an aquifer or hydrologic unit in the vicinity of a well screen from the rate of rise or fall of the water level or hydraulic head in the monitor well after a known volume or "slug" is suddenly injected or withdrawn. This particular method is based on the following assumptions: 1) drawdown of the water table around the monitor well is negligible, 2) flow above the water table (in the capillary fringe) can be ignored, 3) head losses as water enters the monitor well (well losses) are negligible, and 4) the aquifer is homogeneous and isotropic.

The rate of flow of ground water into a monitor well after the water level has been lowered a distance, y, below the static water table around the monitor well is calculated using the Thiem equation (Equation 1).

$$Q = 2\pi KL \frac{y}{\ln(R_e/r_w)}, \text{ where} \qquad (1)$$

Where,

Q	=	rate of flow into the well;
π	=	3.14159, the ratio of the circumference to the diameter of a circle.
K	=	hydraulic conductivity of the hydrologic unit in the vicinity of the well screen;
L	=	length of screened interval;
y	=	vertical difference between water level inside the well and the static water level outside the well;
R_e	=	effective radial distance over which y is dissipated; and
r_w	=	radial distance to the undisturbed portion of the hydrologic unit from the centerline of the well.

The value of r_w is the radius of the screened section of the monitor well plus the thickness of the sand pack and the developed zone around the monitor well. Because the thickness of the developed zone is almost never known, the tendency is to ignore it and take only the thickness of the sand pack into account (Bouwer, 1989).

The rate of rise of the water level (dy/dt) in the well after the water level has been quickly lowered can be regarded as:

$$\frac{dy}{dt} = \frac{-Q}{\pi \; r_c^2} \qquad (2)$$

dy/dt	=	rate of rise of the water level within the well;
Q	=	volume rate of flow into well;
π	=	3.14159, the ratio of the circumference to the diameter of a circle; and
r_c	=	radius of the casing.

If the water level rises in the screened section of the well with a sand pack around it, then the thickness and porosity of the sand pack should be taken into account when calculating the equivalent value of r_c for the rising water level. The equivalent value of r_c is then calculated using Equation (3) if the water level is within the screened interval of the monitor well.

$$r_c = [(1 - n)r_c^2]^{1/2}, \text{ where} \tag{3}$$

n	=	porosity of the sand pack;
r_c	=	radius of the casing;
r_w	=	radius distance to the undisturbed portion of the aquifer from the centerline of the well.

By solving Equation (2) for Q, and using it in Equation (1), it is possible to integrate, and solve for hydraulic conductivity, K, in Equation (4).

$$K = r_c^2 \ln \frac{(R_e/r_w)}{2L} \frac{1}{t} \ln \frac{y_o}{y_t}, \text{ where} \tag{4}$$

K	=	Hydraulic conductivity;
r_c	=	radius of casing;
R_e	=	effective radial distance over which y is dissipated;
r_w	=	radial distance to the undisturbed portion of the aquifer from the centerline of the well;
y_o	=	y at time zero; and
y_t	=	y at time t.

This equation was used to calculate hydraulic conductivity of the fine-grained sandstone/siltstone bedrock.

Values of R_e, effective radius, for various system geometries are expressed in terms of the dimensionless ratio $\ln(R_e/r_w)$ and were determined empirically with an electrical resistance network analog for different values of r_w, L, length of water column in the well, H, and hydrologic unit thickness, b, (Bouwer and Rice, 1976). The data are used in one of two equations: Equation (5) is used when H is less than b, and Equation (6) when H is equal to b. These equations are:

$$\ln \frac{R_e}{r_w} = \left[\frac{1.1}{\ln(H/r_w)} + \frac{A + B\ln[(b - H)/r_w]}{L/r_w} \right]^{-1} \text{, and} \tag{5}$$

$$\ln \frac{R_e}{r_w} = \left[\frac{1.1}{\ln(H/r_w)} + \frac{C}{L/r_w} \right]^{-1} \text{, } \textit{where} \tag{6}$$

A,B,and C = dimensionless values as a function of L/r_w;

R_e = Effective radial distance over which y is dissipated;

r_w = Radial distance to the undisturbed portion of the aquifer from the center line of the well;

H = length of water column in the well;

b = hydrologic unit thickness; and

L = length of screened interval.

Because y and t are the only variables in Equation (4), a plot of ln y_t versus t semilograrithmic paper may be used to determine $[\ln(y_o/y_t)]/t$. The straight line through the data points can also be used to select two values of y, namely y_o and y_t, along the time interval t for substitution into Equation (4). Because drawdown of the ground-water table around the well increases exponentially and time increases linearly as the test progresses, the points begin to deviate from the straight line for large t and small y. Thus, only the linear portion of the curve should be used to evaluate $[\ln(y_o/y_t)]/t$ for the calculation of K using Equation (4) (Bouwer, 1989).

X.4 SLUG TEST RESULTS

The slug test data for the falling-head (injection of the slug) and the rising-head (withdrawal of the slug) tests are presented in this section. Only the data from the rising-head tests were analyzed by the Bouwer and Rice method to calculate the hydraulic conductivity because the monitor wells were screened in unconfined conditions. The falling-head test performed on an unconfined aquifer produces erroneous results due to the drainage of water into the unsaturated zone above the water table. Thus, the falling-head tests are invalid in monitor wells screened in unconfined conditions. The graphs illustrating the plotted displacement values versus time for the rising-head tests are presented in this section. The well construction data used for the

slug test analysis are presented in Table X.1. The computed hydraulic conductivity values for the monitor wells at IRP Site No. 6, No. 7, and No. 8 are presented in Table X.2.

The saturated thickness of the hydrologic unit was assumed to be equal to the saturated thickness of the screened interval (as well as the height of the water in the monitor well); although, the observed saturated thickness of the hydrologic unit observed during drilling (air rotary) was approximately four to five feet. The depth to water encountered during drilling was approximately equal to the depth to the static water table. Ground water encountered during drilling the boreholes for the monitor wells may possibly be migrating through small fractures and/or intergranular spaces within the fine-grained sandstone/siltstone unit. The hydraulic conductivity (K) ratio (vertical K/horizonal K) was assumed to be equal to 0.1.

The average hydraulic conductivity values at IRP Site No. 6, No. 7, and No. 8 are 2.38 X 10^{-2} feet per minute (ft/min) (256 gallons per day per square feet (gpd/ft^2)), 2.44 X 10^{-2} ft/min (264 gpd/ft^2), and 9.86 X 10^{-3} ft/min (107 gpd/ft^2), respectively.

Table X.2
Slug Test Results, IRP Sites No. 6, No. 7, and No. 8
120th Fighter Wing, Montana ANGB, Great Falls, Montana

Monitor Well	Hydraulic Conductivity (ft/min)	Hydraulic Conductivity (gpd/ft^2)
IRP Site No. 6		
6-MW2	2.89 x 10^{-2}	311
6-MW3	1.87 x 10^{-2}	201
IRP Site No. 7		
7-MW2	4.27 x 10^{-2}	460
7-MW3	1.03 x 10^{-2}	111
7-MW5	2.04 x 10^{-2}	220
IRP Site No. 8		
8-MW2	1.01 x 10^{-2}	109
8-MW4	9.62 x 10^{-3}	104

ft/min – feet per minute gpd/ft^2 – gallons per day per square feet

X.4 REFERENCES

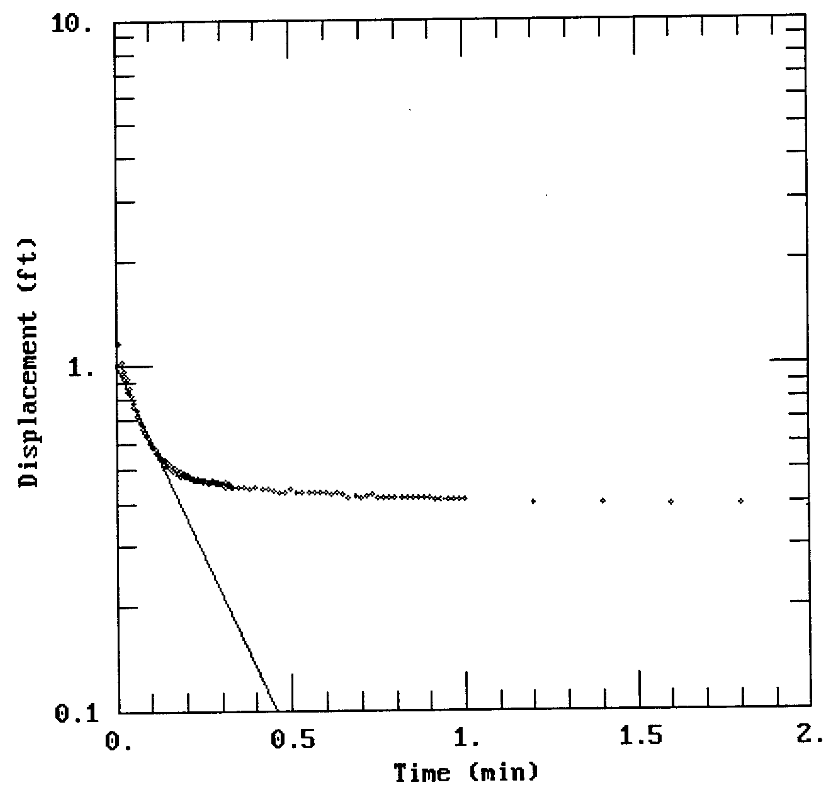
Bouwer, H. and Rice, R.C., 1976. A Slug Test for Determining Hydraulic Conductivity of Unconfines Aquifers with Completely or Partially Pentrating Wells. American Geophysical Union Water Resources Research, Vol. 12, No. 3, p. 423-428.

Bouwer, H., 1989. The Bouwer and Rice Slug Test - An Update. Ground Water, Vol. 27, No. 3, p. 304-309.

Geraghty & Miller, Inc., 1991. AQTESOLV software package, Version 1.1, Geraghty & Miller, Inc., Reston, VA.

CLIENT: HAZWRAP	COMPANY: Operational Technologies Corp.
LOCATION: Montana ANGB	PROJECT: 8056-101

Rising Head Test for 6-MW2



DATA SET:
6MW2R.DAT
06/21/96

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

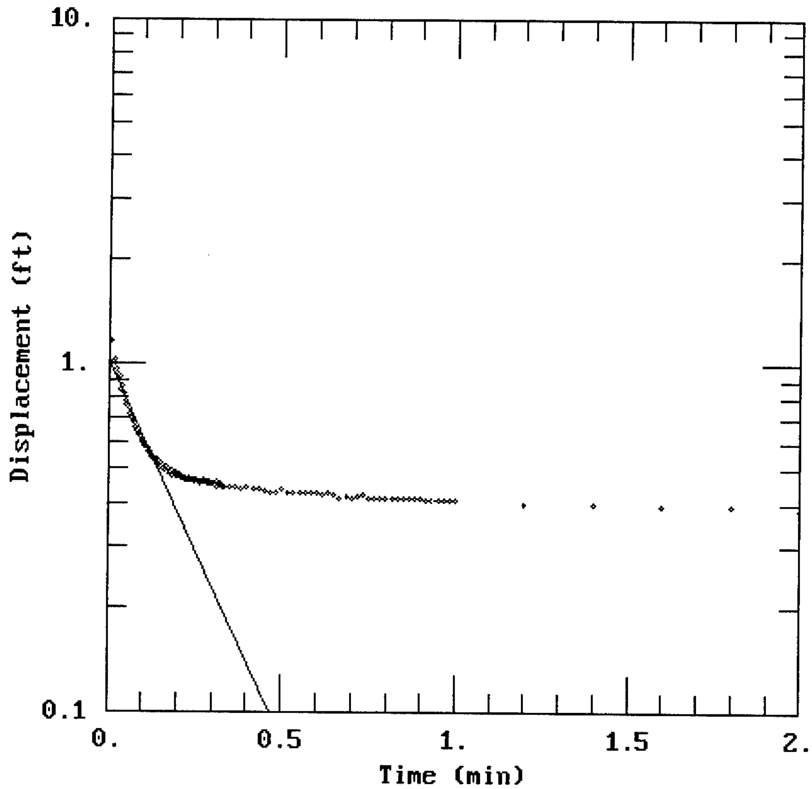
TEST DATA:
$H0 = 1.16$ ft
$r_c = 0.0833$ ft
$r_w = 0.25$ ft
$L = 20.$ ft
$b = 20.$ ft
$H = 5.81$ ft

PARAMETER ESTIMATES:
$K = 0.008531$ ft/min
$y0 = 1.002$ ft

AQTESOLV

CLIENT: HAZWRAP	COMPANY: Operational Technologies Corp.
LOCATION: Montana ANGB	PROJECT: 8056-101

Rising Head Test for 6-MW2



DATA SET:
6MW2R.DAT
06/21/96

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

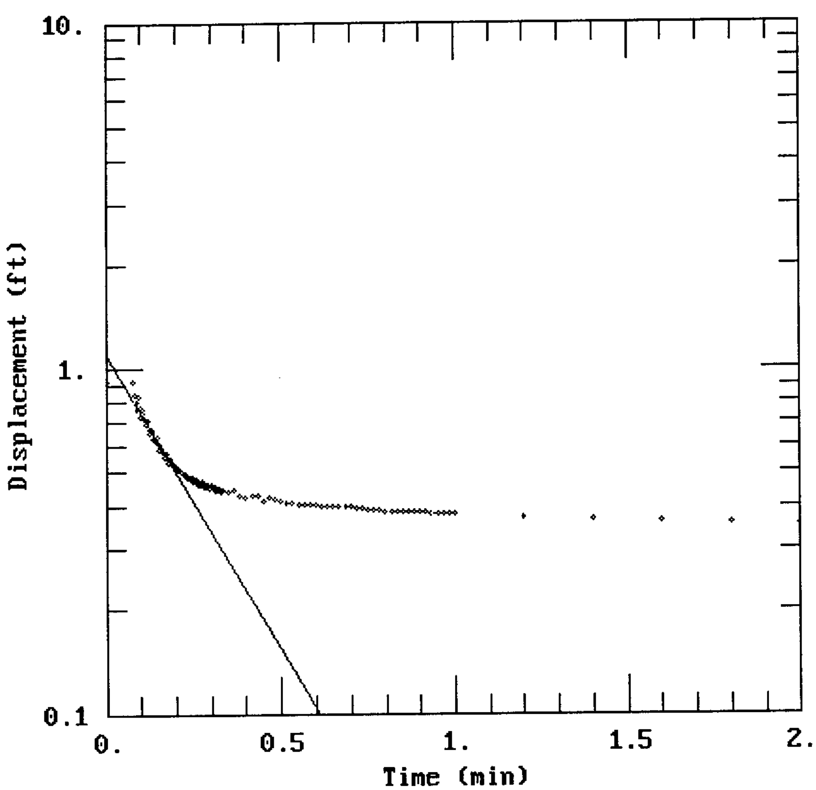
TEST DATA:
H0= 1.16 ft
r_c= 0.0833 ft
r_w= 0.25 ft
L = 20. ft
b = 20. ft
H = 5.81 ft

PARAMETER ESTIMATES:
K = 0.008399 ft/min
y0 = 1.016 ft

AQTESOLV

CLIENT: HAZWRAP	COMPANY: Operational Technologies Corp.
LOCATION: Montana ANGB	PROJECT: 8056-101

Rising Head Test for 6-MW3



DATA SET:
6MW3R.DAT
06/21/96

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

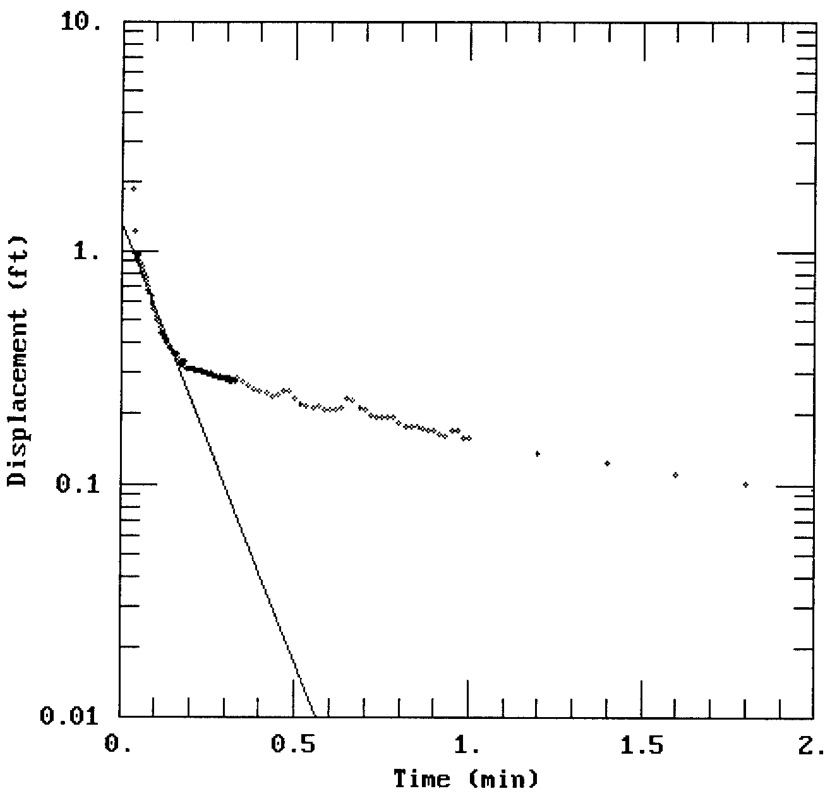
TEST DATA:
H0= 0.922 ft
r_c= 0.0833 ft
r_w= 0.25 ft
L = 20. ft
b = 20. ft
H = 7.82 ft

PARAMETER ESTIMATES:
K = 0.007131 ft/min
y0 = 1.093 ft

AQTESOLV

CLIENT: HAZWRAP	COMPANY: Operational Technologies Corp.
LOCATION: Montana ANGB	PROJECT: 8056-101

Rising Head Test for 7-MW2



DATA SET:
7MW2R.DAT
06/21/96

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

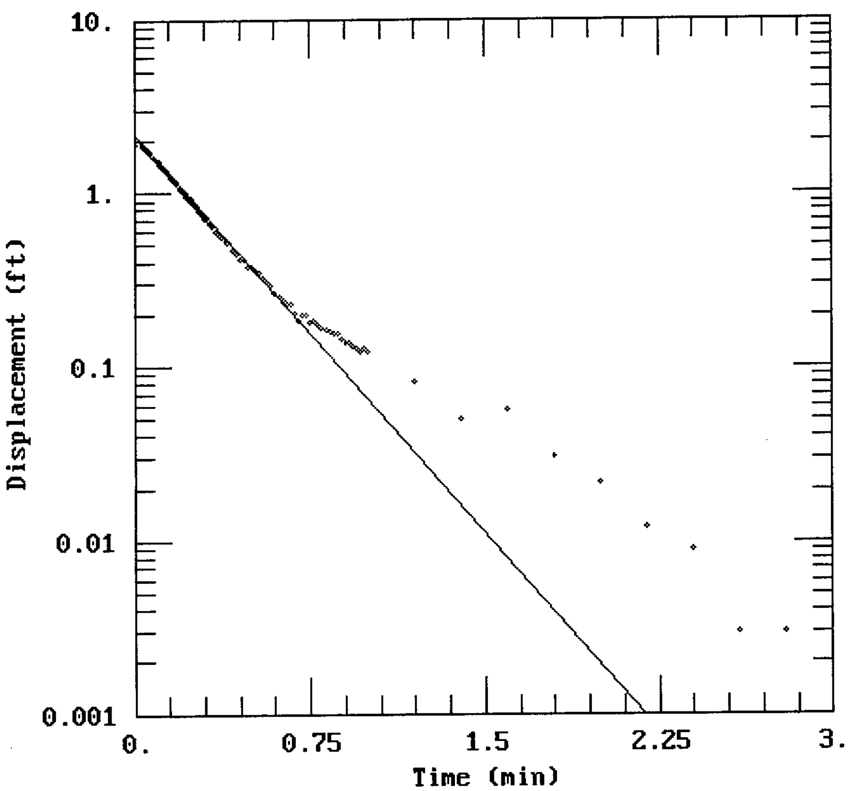
TEST DATA:
H0= 1.87 ft
r_c= 0.0833 ft
r_w= 0.25 ft
L = 20. ft
b = 20. ft
H = 7.68 ft

PARAMETER ESTIMATES:
K = 0.01576 ft/min
y0 = 1.311 ft

AQTESOLV

CLIENT: HAZWRAP	COMPANY: Operational Technologies Corp.
LOCATION: Montana ANGB	PROJECT: 8056-101

Rising Head Test for 7-MW3



DATA SET:
7MW3R.DAT
06/21/96

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

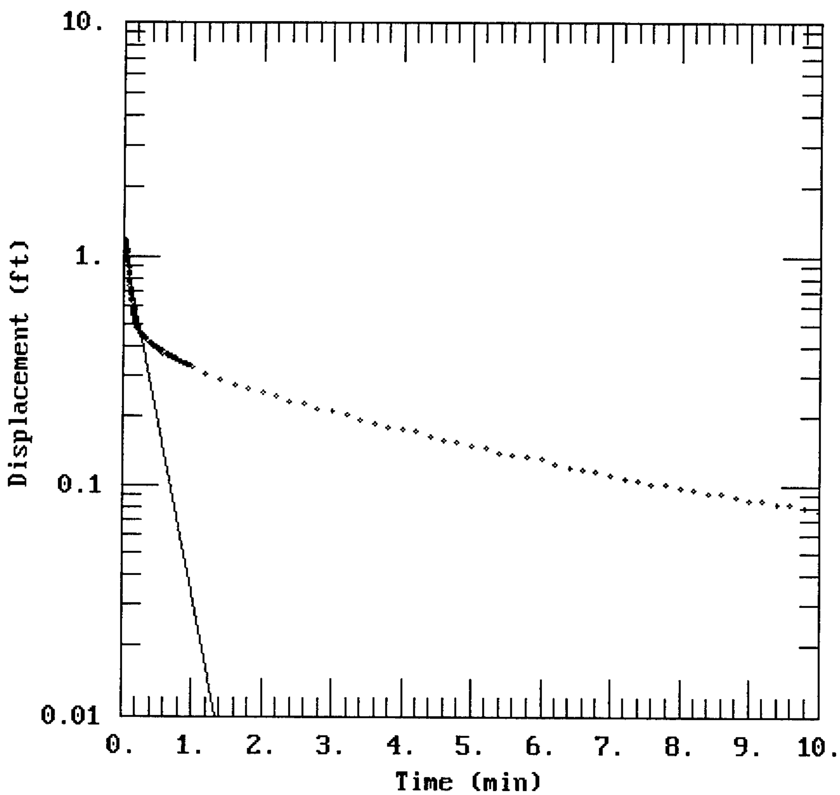
TEST DATA:
H0= 1.924 ft
r_c= 0.0833 ft
r_w= 0.25 ft
L = 20. ft
b = 20. ft
H = 14.88 ft

PARAMETER ESTIMATES:
K = 0.007493 ft/min
y0 = 2.158 ft

AQTESOLV

CLIENT: HAZWRAP	COMPANY: Operational Technologies Corp.
LOCATION: Montana ANGB	PROJECT: 8056-101

Rising Head Test for 7-MW5



DATA SET:
7MW5R.DAT
06/21/96

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

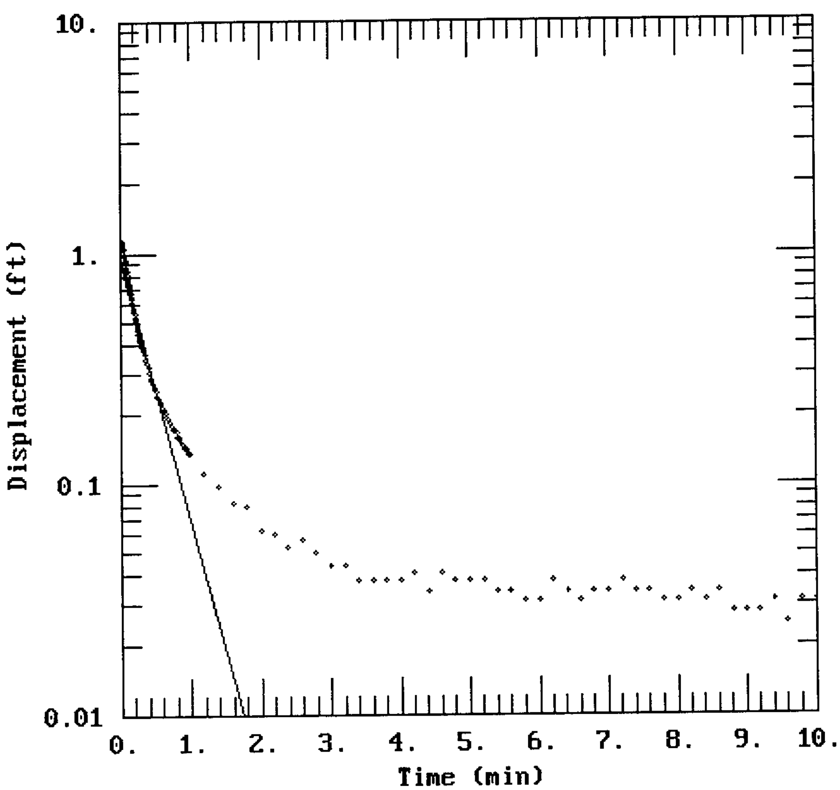
TEST DATA:
H0= 1.176 ft
r_c= 0.0833 ft
r_w= 0.25 ft
L = 20. ft
b = 20. ft
H = 8.66 ft

PARAMETER ESTIMATES:
K = 0.006508 ft/min
y0 = 1.108 ft

AQTESOLV

CLIENT: HAZWRAP	COMPANY: Operational Technologies Corp.
LOCATION: Montana ANGB	PROJECT: 8056-101

Rising Head Test for 8-MW2



DATA SET:
8MW2R.DAT
06/21/96

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

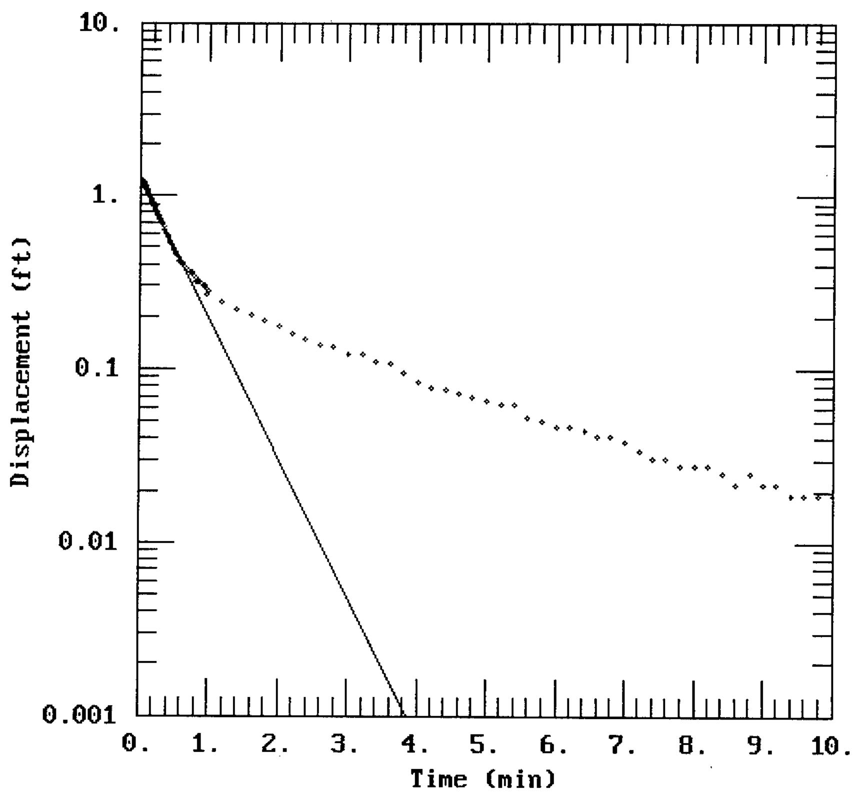
TEST DATA:
H0= 1.11 ft
r_c= 0.0833 ft
r_w= 0.25 ft
L = 20. ft
b = 20. ft
H = 9.1 ft

PARAMETER ESTIMATES:
K = 0.004925 ft/min
y0 = 0.9218 ft

AQTESOLV

CLIENT: HAZWRAP	COMPANY: Operational Technologies Corp.
LOCATION: Montana ANGB	PROJECT: 8056-101

Rising Head Test for 8-MW4



DATA SET:
8MW4R.DAT
06/21/96

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0= 1.214 ft
r_c= 0.0833 ft
r_w= 0.25 ft
L = 20. ft
b = 20. ft
H = 6.72 ft

PARAMETER ESTIMATES:
K = 0.003247 ft/min
y0 = 1.212 ft

AQTESOLV

Rising Head Test for Monitor Well 6-MW2

SE1000C
Environmental Logger
05/17 17:19

Unit# 00831 Test 11

Setups: INPUT 1
------------ ---------
Type Level (F)
Mode TOC
I.D. 6022

Reference 0.000
Linearity 0.030
Scale factor 10.030
Offset 0.040
Delay mSEC 50.000

Step 0 05/17 13:20:15

Elapsed Time	INPUT 1
0.0000	0.317
0.0033	1.306
0.0066	0.957
0.0100	1.163
0.0133	1.011
0.0166	1.030
0.0200	1.001
0.0233	0.944
0.0266	0.963
0.0300	0.894
0.0333	0.919
0.0366	0.846
0.0400	0.862
0.0433	0.824
0.0466	0.817
0.0500	0.767
0.0533	0.779
0.0566	0.754
0.0600	0.741
0.0633	0.716
0.0666	0.703
0.0700	0.691
0.0733	0.684
0.0766	0.672
0.0800	0.656
0.0833	0.643
0.0866	0.637
0.0900	0.624
0.0933	0.618
0.0966	0.602
0.1000	0.596
0.1033	0.586
0.1066	0.583
0.1100	0.583
0.1133	0.573
0.1166	0.564
0.1200	0.561
0.1233	0.551
0.1266	0.542
0.1300	0.538
0.1333	0.538
0.1366	0.532
0.1400	0.532
0.1433	0.516
0.1466	0.513
0.1500	0.519
0.1533	0.510
0.1566	0.513
0.1600	0.500
0.1633	0.497
0.1666	0.507
0.1700	0.488
0.1733	0.500
0.1766	0.488
0.1800	0.488
0.1833	0.494
0.1866	0.481
0.1900	0.488
0.1933	0.478
0.1966	0.488
0.2000	0.478
0.2033	0.485
0.2066	0.478
0.2100	0.475
0.2133	0.478
0.2166	0.475
0.2200	0.469
0.2233	0.475
0.2266	0.469
0.2300	0.469
0.2333	0.475
0.2366	0.466
0.2400	0.466
0.2433	0.466
0.2466	0.469
0.2500	0.462
0.2533	0.466
0.2566	0.462
0.2600	0.462
0.2633	0.462
0.2666	0.456
0.2700	0.459
0.2733	0.466
0.2766	0.459
0.2800	0.459
0.2833	0.459
0.2866	0.453
0.2900	0.456
0.2933	0.459
0.2966	0.453
0.3000	0.456
0.3033	0.453
0.3066	0.450
0.3100	0.459
0.3133	0.447
0.3166	0.450
0.3200	0.456
0.3233	0.453
0.3266	0.450
0.3300	0.447
0.3333	0.447
0.3500	0.447
0.3666	0.443
0.3833	0.440
0.4000	0.447
0.4166	0.440
0.4333	0.437
0.4500	0.434
0.4666	0.431
0.4833	0.431
0.5000	0.440
0.5166	0.431
0.5333	0.428
0.5500	0.428
0.5666	0.431
0.5833	0.431
0.6000	0.428
0.6166	0.421
0.6333	0.431
0.6500	0.424
0.6666	0.415
0.6833	0.418
0.7000	0.415
0.7166	0.418
0.7333	0.421
0.7500	0.415
0.7666	0.412
0.7833	0.415

0.8000	0.412
0.8166	0.412
0.8333	0.415
0.8500	0.412
0.8666	0.415
0.8833	0.412
0.9000	0.412
0.9166	0.409
0.9333	0.409
0.9500	0.409
0.9666	0.409
0.9833	0.409
1.0000	0.409
1.2000	0.399
1.4000	0.396
1.6000	0.393
1.8000	0.393
2.0000	0.386
2.2000	0.389
2.4000	0.386
2.6000	0.383
2.8000	0.383
3.0000	0.383
3.2000	0.380
3.4000	0.377
3.6000	0.380
3.8000	0.377
4.0000	0.377
4.2000	0.374
4.4000	0.374
4.6000	0.374
4.8000	0.370
5.0000	0.370
5.2000	0.367
5.4000	0.367
5.6000	0.364
5.8000	0.367
6.0000	0.361
6.2000	0.361
6.4000	0.361
6.6000	0.364
6.8000	0.364
7.0000	0.361
7.2000	0.358
7.4000	0.358
7.6000	0.355
7.8000	0.355
8.0000	0.351
8.2000	0.351
8.4000	0.351
8.6000	0.355
8.8000	0.348
9.0000	0.345
9.2000	0.348
9.4000	0.348
9.6000	0.348
9.8000	0.345
10.0000	0.345
11.0000	0.342
12.0000	0.345
13.0000	0.339
14.0000	0.339
15.0000	0.332
16.0000	0.332
17.0000	0.323
18.0000	0.323
19.0000	0.320
20.0000	0.313
21.0000	0.310
22.0000	0.304
23.0000	0.307
24.0000	0.304
25.0000	0.301
26.0000	0.301
27.0000	0.298
28.0000	0.291
29.0000	0.291
30.0000	0.285
31.0000	0.285
32.0000	0.282
33.0000	0.279
34.0000	0.279
35.0000	0.275
36.0000	0.275
37.0000	0.269
38.0000	0.269
39.0000	0.259
40.0000	0.266
41.0000	0.263
42.0000	0.263
43.0000	0.259
44.0000	0.259
45.0000	0.259
46.0000	0.253
47.0000	0.253
48.0000	0.253
49.0000	0.250
50.0000	0.247
51.0000	0.250
52.0000	0.244
53.0000	0.244
54.0000	0.244
55.0000	0.244
56.0000	0.240
57.0000	0.237
58.0000	0.237
59.0000	0.234
60.0000	0.234
61.0000	0.234
62.0000	0.231
63.0000	0.225

Falling Head Test for Monitor Well 6-MW2

SE1000C
Environmental Logger
05/17 17:14

Unit# 00831 Test 10

Setups:	INPUT 1
Type	Level (F)
Mode	TOC
I.D.	6021

Reference	0.000
Linearity	0.030
Scale factor	10.030
Offset	0.040
Delay mSEC	50.000

Step 0 05/17 11:46:02

Elapsed Time	INPUT 1
0.0000	0.003
0.0033	0.000
0.0066	0.003
0.0100	0.003
0.0133	0.000
0.0166	0.000
0.0200	0.006
0.0233	0.000
0.0266	-0.047
0.0300	-0.351
0.0333	-0.348
0.0366	-0.380
0.0400	-0.554
0.0433	-0.545
0.0466	-0.805
0.0500	-0.447
0.0533	-0.301
0.0566	-0.386
0.0600	-0.339
0.0633	-0.361
0.0666	-0.447
0.0700	-0.440
0.0733	-0.481
0.0766	-0.415
0.0800	-0.409
0.0833	-0.336
0.0866	-0.307
0.0900	-0.377
0.0933	-0.421
0.0966	-0.402
0.1000	-0.389
0.1033	-0.399
0.1066	-0.367
0.1100	-0.367
0.1133	-0.389
0.1166	-0.393
0.1200	-0.380
0.1233	-0.380
0.1266	-0.383
0.1300	-0.377
0.1333	-0.386
0.1366	-0.380
0.1400	-0.383
0.1433	-0.386
0.1466	-0.380
0.1500	-0.380
0.1533	-0.380
0.1566	-0.380
0.1600	-0.380
0.1633	-0.380
0.1666	-0.380
0.1700	-0.380
0.1733	-0.380
0.1766	-0.380
0.1800	-0.380
0.1833	-0.377
0.1866	-0.380
0.1900	-0.380
0.1933	-0.380
0.1966	-0.380
0.2000	-0.380
0.2033	-0.377
0.2066	-0.380
0.2100	-0.377
0.2133	-0.380
0.2166	-0.377
0.2200	-0.380
0.2233	-0.377
0.2266	-0.377
0.2300	-0.380
0.2333	-0.377
0.2366	-0.380
0.2400	-0.377
0.2433	-0.377
0.2466	-0.377
0.2500	-0.380
0.2533	-0.377
0.2566	-0.377
0.2600	-0.377
0.2633	-0.377
0.2666	-0.377
0.2700	-0.377
0.2733	-0.377
0.2766	-0.377
0.2800	-0.377
0.2833	-0.377
0.2866	-0.377
0.2900	-0.377
0.2933	-0.377
0.2966	-0.377
0.3000	-0.374
0.3033	-0.377
0.3066	-0.377
0.3100	-0.377
0.3133	-0.377
0.3166	-0.377
0.3200	-0.377
0.3233	-0.377
0.3266	-0.374
0.3300	-0.377
0.3333	-0.377
0.3500	-0.374
0.3666	-0.374
0.3833	-0.374
0.4000	-0.374
0.4166	-0.374
0.4333	-0.374
0.4500	-0.370
0.4666	-0.370
0.4833	-0.370
0.5000	-0.370
0.5166	-0.370
0.5333	-0.370
0.5500	-0.370
0.5666	-0.370
0.5833	-0.370
0.6000	-0.367
0.6166	-0.370
0.6333	-0.367
0.6500	-0.358
0.6666	-0.374
0.6833	-0.367
0.7000	-0.367
0.7166	-0.374
0.7333	-0.364
0.7500	-0.367
0.7666	-0.367
0.7833	-0.367
0.8000	-0.367
0.8166	-0.367

0.8333	-0.367
0.8500	-0.367
0.8666	-0.367
0.8833	-0.367
0.9000	-0.367
0.9166	-0.364
0.9333	-0.364
0.9500	-0.364
0.9666	-0.364
0.9833	-0.364
1.0000	-0.364
1.2000	-0.361
1.4000	-0.358
1.6000	-0.355
1.8000	-0.355
2.0000	-0.351
2.2000	-0.348
2.4000	-0.348
2.6000	-0.345
2.8000	-0.342
3.0000	-0.342
3.2000	-0.342
3.4000	-0.339
3.6000	-0.336
3.8000	-0.336
4.0000	-0.332
4.2000	-0.332
4.4000	-0.329
4.6000	-0.326
4.8000	-0.326
5.0000	-0.326
5.2000	-0.323
5.4000	-0.323
5.6000	-0.320
5.8000	-0.320
6.0000	-0.320
6.2000	-0.317
6.4000	-0.317
6.6000	-0.313
6.8000	-0.313
7.0000	-0.313
7.2000	-0.310
7.4000	-0.310
7.6000	-0.307
7.8000	-0.307
8.0000	-0.307
8.2000	-0.307
8.4000	-0.304
8.6000	-0.304
8.8000	-0.304
9.0000	-0.304
9.2000	-0.301
9.4000	-0.301
9.6000	-0.301
9.8000	-0.298
10.0000	-0.298
11.0000	-0.291
12.0000	-0.282
13.0000	-0.279
14.0000	-0.275
15.0000	-0.275
16.0000	-0.269
17.0000	-0.266
18.0000	-0.263
19.0000	-0.259
20.0000	-0.256
21.0000	-0.256
22.0000	-0.253
23.0000	-0.253
24.0000	-0.250
25.0000	-0.253
26.0000	-0.247
27.0000	-0.244
28.0000	-0.240
29.0000	-0.240
30.0000	-0.240
31.0000	-0.237
32.0000	-0.237
33.0000	-0.237
34.0000	-0.237
35.0000	-0.234
36.0000	-0.234
37.0000	-0.231
38.0000	-0.231
39.0000	-0.228
40.0000	-0.228
41.0000	-0.225
42.0000	-0.225
43.0000	-0.225
44.0000	-0.225
45.0000	-0.221
46.0000	-0.221
47.0000	-0.218
48.0000	-0.225
49.0000	-0.225
50.0000	-0.218
51.0000	-0.218
52.0000	-0.215
53.0000	-0.215
54.0000	-0.218
55.0000	-0.215
56.0000	-0.218
57.0000	-0.215
58.0000	-0.215
59.0000	-0.212
60.0000	-0.215
61.0000	-0.212
62.0000	-0.212
63.0000	-0.212
64.0000	-0.215
65.0000	-0.212
66.0000	-0.212
67.0000	-0.212
68.0000	-0.212
69.0000	-0.209
70.0000	-0.212
71.0000	-0.209
72.0000	-0.209
73.0000	-0.209
74.0000	-0.209
75.0000	-0.209
76.0000	-0.209
77.0000	-0.209
78.0000	-0.209
79.0000	-0.209
80.0000	-0.206
81.0000	-0.206
82.0000	-0.209
83.0000	-0.209
84.0000	-0.209
85.0000	-0.209
86.0000	-0.212
87.0000	-0.209
88.0000	-0.212
89.0000	-0.209
90.0000	-0.212
91.0000	-0.215

Falling Head Test for Monitor Well 6-MW3

SE1000C
Environmental Logger
05/17 16:54

Unit# 00831 Test 4

Setups: INPUT 1
------------ ---------
Type Level (F)
Mode TOC
I.D. 06031

Reference 0.000
Linearity 0.030
Scale factor 10.030
Offset 0.040
Delay mSEC 50.000

Step 0 05/16 16:18:26

Elapsed Time	INPUT 1
0.0000	-0.199
0.0033	-0.171
0.0066	-0.177
0.0100	-0.390
0.0133	-0.678
0.0166	-0.951
0.0200	-0.516
0.0233	-0.459
0.0266	-0.669
0.0300	-0.780
0.0333	-0.726
0.0366	-0.815
0.0400	-0.869
0.0433	-0.634
0.0466	-0.355
0.0500	-0.402
0.0533	-0.241
0.0566	-0.504
0.0600	-0.770
0.0633	-0.333
0.0666	-0.250
0.0700	-0.516
0.0733	-0.377
0.0766	-0.307
0.0800	-0.453
0.0833	-0.494
0.0866	-0.396
0.0900	-0.228
0.0933	-0.187
0.0966	-0.421
0.1000	-0.612
0.1033	-0.475
0.1066	-0.314
0.1100	-0.279
0.1133	-0.164
0.1166	-0.301
0.1200	-0.516
0.1233	-0.475
0.1266	-0.361
0.1300	-0.314
0.1333	-0.288
0.1366	-0.345
0.1400	-0.421
0.1433	-0.405
0.1466	-0.364
0.1500	-0.333
0.1533	-0.336
0.1566	-0.364
0.1600	-0.386
0.1633	-0.374
0.1666	-0.358
0.1700	-0.348
0.1733	-0.355
0.1766	-0.367
0.1800	-0.367
0.1833	-0.364
0.1866	-0.358
0.1900	-0.358
0.1933	-0.358
0.1966	-0.364
0.2000	-0.361
0.2033	-0.358
0.2066	-0.358
0.2100	-0.358
0.2133	-0.361
0.2166	-0.361
0.2200	-0.358
0.2233	-0.358
0.2266	-0.358
0.2300	-0.361
0.2333	-0.358
0.2366	-0.361
0.2400	-0.358
0.2433	-0.358
0.2466	-0.358
0.2500	-0.361
0.2533	-0.358
0.2566	-0.358
0.2600	-0.358
0.2633	-0.358
0.2666	-0.358
0.2700	-0.358
0.2733	-0.358
0.2766	-0.358
0.2800	-0.358
0.2833	-0.358
0.2866	-0.358
0.2900	-0.358
0.2933	-0.358
0.2966	-0.358
0.3000	-0.358
0.3033	-0.361
0.3066	-0.358
0.3100	-0.358
0.3133	-0.358
0.3166	-0.358
0.3200	-0.358
0.3233	-0.358
0.3266	-0.358
0.3300	-0.358
0.3333	-0.358
0.3500	-0.358
0.3666	-0.358
0.3833	-0.358
0.4000	-0.358
0.4166	-0.358
0.4333	-0.358
0.4500	-0.358
0.4666	-0.358
0.4833	-0.358
0.5000	-0.358
0.5166	-0.358
0.5333	-0.358
0.5500	-0.358
0.5666	-0.358
0.5833	-0.358
0.6000	-0.358
0.6166	-0.358
0.6333	-0.358
0.6500	-0.358
0.6666	-0.358
0.6833	-0.358
0.7000	-0.358
0.7166	-0.358
0.7333	-0.358
0.7500	-0.358
0.7666	-0.355
0.7833	-0.355

0.8000	-0.355
0.8166	-0.355
0.8333	-0.355
0.8500	-0.358
0.8666	-0.355
0.8833	-0.345
0.9000	-0.466
0.9166	-0.380
0.9333	-0.380
0.9500	-0.364
0.9666	-0.358
0.9833	-0.355
1.0000	-0.364
1.2000	-0.355
1.4000	-0.352
1.6000	-0.352
1.8000	-0.352
2.0000	-0.352
2.2000	-0.348
2.4000	-0.348
2.6000	-0.348
2.8000	-0.345
3.0000	-0.348
3.2000	-0.345
3.4000	-0.345
3.6000	-0.345
3.8000	-0.345
4.0000	-0.345
4.2000	-0.342
4.4000	-0.342
4.6000	-0.342
4.8000	-0.342
5.0000	-0.342
5.2000	-0.342
5.4000	-0.342
5.6000	-0.339
5.8000	-0.339
6.0000	-0.339
6.2000	-0.339
6.4000	-0.339
6.6000	-0.339
6.8000	-0.339
7.0000	-0.339
7.2000	-0.339
7.4000	-0.336
7.6000	-0.339
7.8000	-0.339
8.0000	-0.336
8.2000	-0.336
8.4000	-0.336
8.6000	-0.336
8.8000	-0.336
9.0000	-0.336
9.2000	-0.336
9.4000	-0.336
9.6000	-0.336
9.8000	-0.336
10.0000	-0.336
11.0000	-0.336
12.0000	-0.329
13.0000	-0.329
14.0000	-0.329
15.0000	-0.329
16.0000	-0.326
17.0000	-0.326
18.0000	-0.326
19.0000	-0.326
20.0000	-0.326
21.0000	-0.326
22.0000	-0.329
23.0000	-0.323
24.0000	-0.323
25.0000	-0.323
26.0000	-0.323
27.0000	-0.323
28.0000	-0.323
29.0000	-0.323
30.0000	-0.323
31.0000	-0.323
32.0000	-0.323
33.0000	-0.320
34.0000	-0.323
35.0000	-0.323
36.0000	-0.320
37.0000	-0.320
38.0000	-0.323
39.0000	-0.320
40.0000	-0.320
41.0000	-0.320
42.0000	-0.320
43.0000	-0.320
44.0000	-0.320
45.0000	-0.323

Rising Head Test for Monitor Well 6-MW3

SE1000C
Environmental Logger
05/17 16:58

Unit# 00831 Test 5

Setups: INPUT 1

------------ ---------

Type Level (F)
Mode TOC
I.D. 06032

Reference 0.000
Linearity 0.030
Scale factor 10.030
Offset 0.040
Delay mSEC 50.000

Step 0 05/16 17:05:21

Elapsed Time	INPUT 1
0.0000	0.294
0.0033	0.025
0.0066	-0.082
0.0100	0.345
0.0133	0.919
0.0166	1.109
0.0200	0.691
0.0233	0.107
0.0266	1.087
0.0300	1.724
0.0333	1.059
0.0366	0.665
0.0400	1.236
0.0433	1.338
0.0466	0.837
0.0500	0.830
0.0533	1.170
0.0566	1.068
0.0600	0.795
0.0633	0.881
0.0666	1.033
0.0700	0.916
0.0733	0.783
0.0766	0.843
0.0800	0.922
0.0833	0.840
0.0866	0.761
0.0900	0.802
0.0933	0.827
0.0966	0.773
0.1000	0.729
0.1033	0.745
0.1066	0.764
0.1100	0.719
0.1133	0.688
0.1166	0.710
0.1200	0.707
0.1233	0.669
0.1266	0.653
0.1300	0.665
0.1333	0.659
0.1366	0.627
0.1400	0.621
0.1433	0.627
0.1466	0.631
0.1500	0.602
0.1533	0.586
0.1566	0.593
0.1600	0.593
0.1633	0.577
0.1666	0.555
0.1700	0.567
0.1733	0.567
0.1766	0.545
0.1800	0.535
0.1833	0.548
0.1866	0.542
0.1900	0.526
0.1933	0.523
0.1966	0.526
0.2000	0.523
0.2033	0.513
0.2066	0.510
0.2100	0.510
0.2133	0.510
0.2166	0.501
0.2200	0.494
0.2233	0.494
0.2266	0.494
0.2300	0.491
0.2333	0.485
0.2366	0.482
0.2400	0.485
0.2433	0.485
0.2466	0.482
0.2500	0.472
0.2533	0.475
0.2566	0.472
0.2600	0.478
0.2633	0.469
0.2666	0.459
0.2700	0.463
0.2733	0.469
0.2766	0.475
0.2800	0.456
0.2833	0.456
0.2866	0.463
0.2900	0.463
0.2933	0.456
0.2966	0.450
0.3000	0.453
0.3033	0.459
0.3066	0.456
0.3100	0.453
0.3133	0.447
0.3166	0.447
0.3200	0.450
0.3233	0.450
0.3266	0.440
0.3300	0.443
0.3333	0.447
0.3500	0.440
0.3666	0.443
0.3833	0.428
0.4000	0.424
0.4166	0.428
0.4333	0.428
0.4500	0.415
0.4666	0.421
0.4833	0.418
0.5000	0.415
0.5166	0.409
0.5333	0.409
0.5500	0.405
0.5666	0.405
0.5833	0.402
0.6000	0.402
0.6166	0.399
0.6333	0.399
0.6500	0.396
0.6666	0.396

0.6833	0.396	7.4000	0.310	48.0000	0.177
0.7000	0.396	7.6000	0.307	49.0000	0.174
0.7166	0.393	7.8000	0.307	50.0000	0.174
0.7333	0.393	8.0000	0.307	51.0000	0.171
0.7500	0.390	8.2000	0.307	52.0000	0.168
0.7666	0.390	8.4000	0.304	53.0000	0.168
0.7833	0.390	8.6000	0.304	54.0000	0.168
0.8000	0.386	8.8000	0.301	55.0000	0.164
0.8166	0.386	9.0000	0.301	56.0000	0.158
0.8333	0.386	9.2000	0.298	57.0000	0.161
0.8500	0.386	9.4000	0.298		
0.8666	0.383	9.6000	0.294		
0.8833	0.383	9.8000	0.294		
0.9000	0.383	10.0000	0.294		
0.9166	0.383	11.0000	0.291		
0.9333	0.380	12.0000	0.288		
0.9500	0.380	13.0000	0.282		
0.9666	0.380	14.0000	0.279		
0.9833	0.380	15.0000	0.272		
1.0000	0.380	16.0000	0.266		
1.2000	0.371	17.0000	0.266		
1.4000	0.367	18.0000	0.260		
1.6000	0.361	19.0000	0.256		
1.8000	0.355	20.0000	0.253		
2.0000	0.351	21.0000	0.247		
2.2000	0.348	22.0000	0.244		
2.4000	0.348	23.0000	0.241		
2.6000	0.345	24.0000	0.237		
2.8000	0.342	25.0000	0.234		
3.0000	0.342	26.0000	0.228		
3.2000	0.339	27.0000	0.225		
3.4000	0.339	28.0000	0.218		
3.6000	0.336	29.0000	0.218		
3.8000	0.336	30.0000	0.218		
4.0000	0.332	31.0000	0.215		
4.2000	0.332	32.0000	0.212		
4.4000	0.329	33.0000	0.209		
4.6000	0.329	34.0000	0.202		
4.8000	0.326	35.0000	0.202		
5.0000	0.326	36.0000	0.202		
5.2000	0.323	37.0000	0.199		
5.4000	0.323	38.0000	0.196		
5.6000	0.320	39.0000	0.193		
5.8000	0.320	40.0000	0.193		
6.0000	0.320	41.0000	0.190		
6.2000	0.317	42.0000	0.187		
6.4000	0.317	43.0000	0.187		
6.6000	0.313	44.0000	0.183		
6.8000	0.313	45.0000	0.183		
7.0000	0.310	46.0000	0.180		
7.2000	0.310	47.0000	0.177		

Falling Head Test for Monitor Well 7-MW2

SE1000C
Environmental Logger
05/17 16:27

Unit# 00831 Test 0

Setups: INPUT 1
------------ ---------
Type Level (F)
Mode TOC
I.D. 7021

Reference 0.000
Linearity 0.030
Scale factor 10.030
Offset 0.040
Delay mSEC 50.000

Step 0 05/16 12:32:46

Elapsed Time	INPUT 1
------------	---------
0.0000	-0.431
0.0033	-0.326
0.0066	-0.183
0.0100	-0.339
0.0133	-0.551
0.0166	-0.478
0.0200	-0.593
0.0233	-0.678
0.0266	-0.329
0.0300	-0.193
0.0333	-0.488
0.0366	-0.564
0.0400	-0.367
0.0433	-0.028
0.0466	-0.082
0.0500	-0.383
0.0533	-0.383
0.0566	-0.228
0.0600	-0.263
0.0633	-0.294
0.0666	-0.294
0.0700	-0.323
0.0733	-0.279
0.0766	-0.294
0.0800	-0.288
0.0833	-0.282
0.0866	-0.285
0.0900	-0.253
0.0933	-0.291
0.0966	-0.269
0.1000	-0.294
0.1033	-0.247
0.1066	-0.282
0.1100	-0.225
0.1133	-0.307
0.1166	-0.221
0.1200	-0.269
0.1233	-0.253
0.1266	-0.272
0.1300	-0.272
0.1333	-0.275
0.1366	-0.282
0.1400	-0.310
0.1433	-0.218
0.1466	-0.193
0.1500	-0.199
0.1533	-0.320
0.1566	-0.247
0.1600	-0.237
0.1633	-0.244
0.1666	-0.244
0.1700	-0.244
0.1733	-0.241
0.1766	-0.241
0.1800	-0.241
0.1833	-0.241
0.1866	-0.237
0.1900	-0.237
0.1933	-0.234
0.1966	-0.234
0.2000	-0.234
0.2033	-0.231
0.2066	-0.231
0.2100	-0.228
0.2133	-0.228
0.2166	-0.228
0.2200	-0.228
0.2233	-0.225
0.2266	-0.225
0.2300	-0.225
0.2333	-0.225
0.2366	-0.221
0.2400	-0.221
0.2433	-0.221
0.2466	-0.218
0.2500	-0.218
0.2533	-0.218
0.2566	-0.218
0.2600	-0.215
0.2633	-0.215
0.2666	-0.215
0.2700	-0.215
0.2733	-0.212
0.2766	-0.212
0.2800	-0.212
0.2833	-0.212
0.2866	-0.209
0.2900	-0.209
0.2933	-0.209
0.2966	-0.209
0.3000	-0.206
0.3033	-0.206
0.3066	-0.206
0.3100	-0.206
0.3133	-0.202
0.3166	-0.206
0.3200	-0.202
0.3233	-0.202
0.3266	-0.202
0.3300	-0.202
0.3333	-0.199
0.3500	-0.196
0.3666	-0.193
0.3833	-0.190
0.4000	-0.187
0.4166	-0.183
0.4333	-0.180
0.4500	-0.177
0.4666	-0.174
0.4833	-0.174
0.5000	-0.171
0.5166	-0.168
0.5333	-0.168
0.5500	-0.164
0.5666	-0.161
0.5833	-0.161
0.6000	-0.158
0.6166	-0.155
0.6333	-0.152
0.6500	-0.149
0.6666	-0.145
0.6833	-0.152
0.7000	-0.149

0.7166	-0.145
0.7333	-0.142
0.7500	-0.142
0.7666	-0.139
0.7833	-0.139
0.8000	-0.136
0.8166	-0.136
0.8333	-0.136
0.8500	-0.133
0.8666	-0.130
0.8833	-0.130
0.9000	-0.126
0.9166	-0.126
0.9333	-0.123
0.9500	-0.123
0.9666	-0.123
0.9833	-0.120
1.0000	-0.120
1.2000	-0.101
1.4000	-0.091
1.6000	-0.079
1.8000	-0.072
2.0000	-0.069
2.2000	-0.060
2.4000	-0.057
2.6000	-0.050
2.8000	-0.050
3.0000	-0.044
3.2000	-0.041
3.4000	-0.038
3.6000	-0.034
3.8000	-0.034
4.0000	-0.031
4.2000	-0.028
4.4000	-0.028
4.6000	-0.025
4.8000	-0.025
5.0000	-0.022
5.2000	-0.022
5.4000	-0.022
5.6000	-0.019
5.8000	-0.019
6.0000	-0.015
6.2000	-0.015
6.4000	-0.015
6.6000	-0.015
6.8000	-0.012
7.0000	-0.012
7.2000	-0.012
7.4000	-0.012
7.6000	-0.009
7.8000	-0.009
8.0000	-0.009
8.2000	-0.009
8.4000	-0.009
8.6000	-0.009
8.8000	-0.009
9.0000	-0.009
9.2000	-0.006
9.4000	-0.006
9.6000	-0.006
9.8000	-0.006
10.0000	-0.006
11.0000	-0.006
12.0000	-0.003
13.0000	0.003
14.0000	-0.003
15.0000	0.003
16.0000	0.006
17.0000	0.000
18.0000	0.006
19.0000	0.006
20.0000	0.000
21.0000	0.006

Rising Head Test for Monitor Well 7-MW2

SE1000C
Environmental Logger
05/17 16:31

Unit# 00831 Test 1

Setups: INPUT 1
------------ ---------
Type Level (F)
Mode TOC
I.D. 07022

Reference 0.000
Linearity 0.030
Scale factor 10.030
Offset 0.040
Delay mSEC 50.000

Step 0 05/16 12:57:16

Elapsed Time	INPUT 1
0.0000	0.241
0.0033	0.390
0.0066	0.735
0.0100	-0.577
0.0133	0.120
0.0166	0.593
0.0200	1.499
0.0233	-0.624
0.0266	0.260
0.0300	0.459
0.0333	1.074
0.0366	1.870
0.0400	1.223
0.0433	0.913
0.0466	0.976
0.0500	0.979
0.0533	0.954
0.0566	0.887
0.0600	0.862
0.0633	0.821
0.0666	0.795
0.0700	0.761
0.0733	0.732
0.0766	0.703
0.0800	0.678
0.0833	0.653
0.0866	0.631
0.0900	0.596
0.0933	0.564
0.0966	0.545
0.1000	0.545
0.1033	0.516
0.1066	0.501
0.1100	0.494
0.1133	0.469
0.1166	0.443
0.1200	0.437
0.1233	0.428
0.1266	0.415
0.1300	0.405
0.1333	0.409
0.1366	0.396
0.1400	0.386
0.1433	0.377
0.1466	0.371
0.1500	0.367
0.1533	0.358
0.1566	0.361
0.1600	0.355
0.1633	0.358
0.1666	0.326
0.1700	0.342
0.1733	0.329
0.1766	0.329
0.1800	0.332
0.1833	0.317
0.1866	0.336
0.1900	0.310
0.1933	0.313
0.1966	0.313
0.2000	0.313
0.2033	0.313
0.2066	0.310
0.2100	0.313
0.2133	0.307
0.2166	0.307
0.2200	0.307
0.2233	0.304
0.2266	0.307
0.2300	0.301
0.2333	0.304
0.2366	0.301
0.2400	0.298
0.2433	0.301
0.2466	0.294
0.2500	0.298
0.2533	0.294
0.2566	0.294
0.2600	0.298
0.2633	0.291
0.2666	0.291
0.2700	0.291
0.2733	0.288
0.2766	0.291
0.2800	0.285
0.2833	0.291
0.2866	0.285
0.2900	0.285
0.2933	0.282
0.2966	0.285
0.3000	0.279
0.3033	0.285
0.3066	0.282
0.3100	0.282
0.3133	0.275
0.3166	0.279
0.3200	0.275
0.3233	0.279
0.3266	0.275
0.3300	0.279
0.3333	0.282
0.3500	0.275
0.3666	0.263
0.3833	0.253
0.4000	0.247
0.4166	0.244
0.4333	0.237
0.4500	0.241
0.4666	0.250
0.4833	0.250
0.5000	0.231
0.5166	0.218
0.5333	0.215
0.5500	0.212
0.5666	0.215
0.5833	0.206
0.6000	0.206
0.6166	0.206
0.6333	0.212
0.6500	0.231
0.6666	0.228
0.6833	0.212
0.7000	0.206

0.7166	0.196
0.7333	0.193
0.7500	0.193
0.7666	0.193
0.7833	0.193
0.8000	0.183
0.8166	0.177
0.8333	0.177
0.8500	0.174
0.8666	0.171
0.8833	0.168
0.9000	0.168
0.9166	0.164
0.9333	0.161
0.9500	0.168
0.9666	0.168
0.9833	0.158
1.0000	0.158
1.2000	0.136
1.4000	0.123
1.6000	0.111
1.8000	0.101
2.0000	0.095
2.2000	0.088
2.4000	0.082
2.6000	0.076
2.8000	0.072
3.0000	0.069
3.2000	0.066
3.4000	0.063
3.6000	0.060
3.8000	0.060
4.0000	0.057
4.2000	0.057
4.4000	0.053
4.6000	0.053
4.8000	0.050
5.0000	0.050
5.2000	0.047
5.4000	0.047
5.6000	0.047
5.8000	0.044
6.0000	0.044
6.2000	0.044
6.4000	0.044
6.6000	0.041
6.8000	0.041
7.0000	0.041
7.2000	0.041
7.4000	0.041
7.6000	0.038
7.8000	0.038
8.0000	0.038
8.2000	0.038
8.4000	0.038
8.6000	0.038
8.8000	0.038
9.0000	0.034
9.2000	0.034
9.4000	0.034
9.6000	0.034
9.8000	0.034
10.0000	0.034
11.0000	0.034
12.0000	0.038
13.0000	0.031
14.0000	0.034
15.0000	0.034
16.0000	0.034
17.0000	0.028
18.0000	0.031
19.0000	0.031
20.0000	0.031
21.0000	0.031
22.0000	0.025

Falling Head Test for Monitor Well 7-MW3

SE1000C
Environmental Logger
05/17 17:22

Unit# 00831 Test 12

Setups: INPUT 1
------------ ---------
Type Level (F)
Mode TOC
I.D. 07031

Reference 0.000
Linearity 0.030
Scale factor 10.030
Offset 0.040
Delay mSEC 50.000

Step 0 05/17 15:16:03

Elapsed Time	INPUT 1
0.0000	-0.216
0.0033	-0.711
0.0066	-1.096
0.0100	-1.531
0.0133	-1.175
0.0166	-0.966
0.0200	-0.645
0.0233	-1.077
0.0266	-0.940
0.0300	-0.718
0.0333	-0.889
0.0366	-0.848
0.0400	-0.962
0.0433	-0.988
0.0466	-1.010
0.0500	-0.937
0.0533	-0.705
0.0566	-0.177
0.0600	-0.301
0.0633	-0.727
0.0666	-0.552
0.0700	-0.562
0.0733	-0.527
0.0766	-0.457
0.0800	-0.448
0.0833	-0.543
0.0866	-0.629
0.0900	-0.645
0.0933	-0.606
0.0966	-0.527
0.1000	-0.499
0.1033	-0.530
0.1066	-0.613
0.1100	-0.626
0.1133	-0.584
0.1166	-0.537
0.1200	-0.530
0.1233	-0.559
0.1266	-0.568
0.1300	-0.562
0.1333	-0.556
0.1366	-0.559
0.1400	-0.559
0.1433	-0.552
0.1466	-0.556
0.1500	-0.552
0.1533	-0.556
0.1566	-0.556
0.1600	-0.552
0.1633	-0.552
0.1666	-0.552
0.1700	-0.549
0.1733	-0.549
0.1766	-0.552
0.1800	-0.546
0.1833	-0.549
0.1866	-0.549
0.1900	-0.546
0.1933	-0.546
0.1966	-0.546
0.2000	-0.546
0.2033	-0.543
0.2066	-0.543
0.2100	-0.543
0.2133	-0.543
0.2166	-0.540
0.2200	-0.540
0.2233	-0.540
0.2266	-0.540
0.2300	-0.537
0.2333	-0.537
0.2366	-0.537
0.2400	-0.537
0.2433	-0.537
0.2466	-0.533
0.2500	-0.533
0.2533	-0.533
0.2566	-0.533
0.2600	-0.530
0.2633	-0.530
0.2666	-0.527
0.2700	-0.527
0.2733	-0.527
0.2766	-0.527
0.2800	-0.524
0.2833	-0.524
0.2866	-0.524
0.2900	-0.524
0.2933	-0.524
0.2966	-0.521
0.3000	-0.521
0.3033	-0.521
0.3066	-0.518
0.3100	-0.518
0.3133	-0.518
0.3166	-0.518
0.3200	-0.514
0.3233	-0.511
0.3266	-0.514
0.3300	-0.511
0.3333	-0.511
0.3500	-0.505
0.3666	-0.502
0.3833	-0.492
0.4000	-0.486
0.4166	-0.476
0.4333	-0.473
0.4500	-0.467
0.4666	-0.460
0.4833	-0.457
0.5000	-0.445
0.5166	-0.438
0.5333	-0.584
0.5500	-0.473
0.5666	-0.400
0.5833	-0.381
0.6000	-0.362
0.6166	-0.346
0.6333	-0.336
0.6500	-0.324
0.6666	-0.308
0.6833	-0.292
0.7000	-0.282

0.7166	-0.273
0.7333	-0.263
0.7500	-0.257
0.7666	-0.247
0.7833	-0.238
0.8000	-0.232
0.8166	-0.232
0.8333	-0.222
0.8500	-0.216
0.8666	-0.209
0.8833	-0.206
0.9000	-0.200
0.9166	-0.197
0.9333	-0.177
0.9500	-0.187
0.9666	-0.184
0.9833	-0.177
1.0000	-0.174
1.2000	-0.133
1.4000	-0.105
1.6000	-0.085
1.8000	-0.066
2.0000	-0.054
2.2000	-0.051
2.4000	-0.035
2.6000	-0.028
2.8000	-0.022
3.0000	-0.019
3.2000	-0.009
3.4000	-0.006
3.6000	-0.006
3.8000	-0.003
4.0000	-0.006
4.2000	0.000
4.4000	0.000
4.6000	0.000
4.8000	0.000
5.0000	0.000
5.2000	0.003
5.4000	0.003
5.6000	0.003
5.8000	0.003
6.0000	0.006
6.2000	0.003
6.4000	0.006
6.6000	0.006
6.8000	0.006
7.0000	0.009
7.2000	0.009
7.4000	0.009
7.6000	0.006
7.8000	0.006
8.0000	0.009
8.2000	0.009
8.4000	0.009
8.6000	0.012
8.8000	0.006
9.0000	0.009
9.2000	0.012
9.4000	0.009
9.6000	0.009
9.8000	0.009
10.0000	0.009
11.0000	0.009
12.0000	0.009
13.0000	0.012

Rising Head Test for Monitor Well 7-MW3

SE1000C
Environmental Logger
05/17 17:25

Unit# 00831 Test 13

Setups: INPUT 1

------------ ---------

Type Level (F)
Mode TOC
I.D. 07032

Reference 0.000
Linearity 0.030
Scale factor 10.030
Offset 0.040
Delay mSEC 50.000

Step 0 05/17 15:32:26

Elapsed Time	INPUT 1
------------	---------
0.0000	0.708
0.0033	0.022
0.0066	0.597
0.0100	0.193
0.0133	0.422
0.0166	1.461
0.0200	1.296
0.0233	1.505
0.0266	1.915
0.0300	1.842
0.0333	1.924
0.0366	1.921
0.0400	1.874
0.0433	1.845
0.0466	1.794
0.0500	1.794
0.0533	1.788
0.0566	1.769
0.0600	1.769
0.0633	1.753
0.0666	1.709
0.0700	1.696
0.0733	1.664
0.0766	1.655
0.0800	1.642
0.0833	1.613
0.0866	1.597
0.0900	1.547
0.0933	1.559
0.0966	1.543
0.1000	1.524
0.1033	1.512
0.1066	1.527
0.1100	1.467
0.1133	1.458
0.1166	1.439
0.1200	1.419
0.1233	1.407
0.1266	1.391
0.1300	1.375
0.1333	1.356
0.1366	1.346
0.1400	1.324
0.1433	1.312
0.1466	1.292
0.1500	1.280
0.1533	1.270
0.1566	1.251
0.1600	1.238
0.1633	1.216
0.1666	1.204
0.1700	1.191
0.1733	1.191
0.1766	1.162
0.1800	1.153
0.1833	1.134
0.1866	1.121
0.1900	1.105
0.1933	1.076
0.1966	1.083
0.2000	1.061
0.2033	1.054
0.2066	1.038
0.2100	1.032
0.2133	1.016
0.2166	1.000
0.2200	0.968
0.2233	0.978
0.2266	0.962
0.2300	0.959
0.2333	0.940
0.2366	0.934
0.2400	0.918
0.2433	0.930
0.2466	0.899
0.2500	0.889
0.2533	0.883
0.2566	0.870
0.2600	0.851
0.2633	0.851
0.2666	0.841
0.2700	0.826
0.2733	0.806
0.2766	0.797
0.2800	0.791
0.2833	0.787
0.2866	0.775
0.2900	0.756
0.2933	0.759
0.2966	0.749
0.3000	0.733
0.3033	0.721
0.3066	0.724
0.3100	0.705
0.3133	0.702
0.3166	0.698
0.3200	0.689
0.3233	0.676
0.3266	0.670
0.3300	0.660
0.3333	0.651
0.3500	0.606
0.3666	0.575
0.3833	0.540
0.4000	0.514
0.4166	0.473
0.4333	0.448
0.4500	0.419
0.4666	0.413
0.4833	0.374
0.5000	0.378
0.5166	0.362
0.5333	0.346
0.5500	0.327
0.5666	0.308
0.5833	0.298
0.6000	0.270
0.6166	0.254
0.6333	0.244
0.6500	0.232
0.6666	0.228
0.6833	0.203
0.7000	0.184

0.7166	0.200
0.7333	0.197
0.7500	0.181
0.7666	0.184
0.7833	0.174
0.8000	0.168
0.8166	0.162
0.8333	0.158
0.8500	0.155
0.8666	0.155
0.8833	0.146
0.9000	0.139
0.9166	0.136
0.9333	0.130
0.9500	0.127
0.9666	0.123
0.9833	0.127
1.0000	0.123
1.2000	0.082
1.4000	0.050
1.6000	0.057
1.8000	0.031
2.0000	0.022
2.2000	0.012
2.4000	0.009
2.6000	0.003
2.8000	0.003
3.0000	0.000
3.2000	-0.006
3.4000	-0.003
3.6000	-0.006
3.8000	-0.009
4.0000	-0.006
4.2000	-0.009
4.4000	-0.009
4.6000	-0.012
4.8000	-0.009
5.0000	-0.015
5.2000	-0.015
5.4000	-0.015
5.6000	-0.015
5.8000	-0.012
6.0000	-0.006
6.2000	-0.015
6.4000	-0.012
6.6000	-0.015
6.8000	-0.015
7.0000	-0.019
7.2000	0.000
7.4000	-0.019
7.6000	-0.012
7.8000	-0.012
8.0000	-0.022
8.2000	-0.019
8.4000	-0.012
8.6000	-0.019
8.8000	-0.019
9.0000	-0.019
9.2000	-0.019
9.4000	-0.019
9.6000	-0.012
9.8000	-0.015
10.0000	-0.015
11.0000	-0.019
12.0000	-0.022
13.0000	-0.022
14.0000	-0.022
15.0000	-0.022
16.0000	-0.022

Falling Head Test for Monitor Well 7-MW5

SE1000C
Environmental Logger
05/17 16:46

Unit# 00831 Test 2

Setups: INPUT 1
------------ ---------
Type Level (F)
Mode TOC
I.D. 07051

Reference 0.000
Linearity 0.030
Scale factor 10.030
Offset 0.040
Delay mSEC 50.000

Step 0 05/16 14:13:51

Elapsed Time	INPUT 1
------------	---------
0.0000	-0.009
0.0033	0.003
0.0066	-0.006
0.0100	0.000
0.0133	-0.006
0.0166	-0.009
0.0200	0.000
0.0233	-0.009
0.0266	-0.003
0.0300	-0.006
0.0333	0.000
0.0366	-0.006
0.0400	0.000
0.0433	-0.006
0.0466	0.000
0.0500	-0.006
0.0533	0.000
0.0566	-0.003
0.0600	-0.006
0.0633	-0.003
0.0666	-0.009
0.0700	-0.006
0.0733	-0.006
0.0766	-0.009
0.0800	0.000
0.0833	-0.006
0.0866	0.000
0.0900	-0.006
0.0933	0.000
0.0966	-0.009
0.1000	0.003
0.1033	-0.009
0.1066	0.000
0.1100	-0.003
0.1133	-0.003
0.1166	-0.006
0.1200	-0.003
0.1233	-0.006
0.1266	-0.003
0.1300	-0.006
0.1333	-0.003
0.1366	-0.006
0.1400	-0.003
0.1433	-0.003
0.1466	0.000
0.1500	-0.003
0.1533	0.003
0.1566	-0.006
0.1600	-0.006
0.1633	-0.006
0.1666	-0.003
0.1700	-0.006
0.1733	0.000
0.1766	-0.003
0.1800	-0.003
0.1833	-0.003
0.1866	0.000
0.1900	-0.003
0.1933	-0.009
0.1966	0.000
0.2000	-0.006
0.2033	0.000
0.2066	-0.006
0.2100	-0.003
0.2133	0.000
0.2166	-0.003
0.2200	0.000
0.2233	0.000
0.2266	0.000
0.2300	-0.003
0.2333	0.000
0.2366	0.000
0.2400	0.000
0.2433	-0.003
0.2466	-0.003
0.2500	-0.003
0.2533	-0.003
0.2566	-0.532
0.2600	-0.095
0.2633	-0.022
0.2666	-0.120
0.2700	-0.352
0.2733	-0.123
0.2766	-0.253
0.2800	-0.209
0.2833	-0.393
0.2866	-0.542
0.2900	-0.415
0.2933	-0.177
0.2966	-0.383
0.3000	-0.545
0.3033	-0.504
0.3066	-0.558
0.3100	-0.256
0.3133	-0.501
0.3166	-0.609
0.3200	-0.764
0.3233	-0.720
0.3266	-0.742
0.3300	-0.590
0.3333	-0.275
0.3500	-0.314
0.3666	-0.304
0.3833	-0.390
0.4000	-0.383
0.4166	-0.377
0.4333	-0.374
0.4500	-0.371
0.4666	-0.371
0.4833	-0.364
0.5000	-0.361
0.5166	-0.361
0.5333	-0.358
0.5500	-0.355
0.5666	-0.348
0.5833	-0.348
0.6000	-0.348
0.6166	-0.345
0.6333	-0.342
0.6500	-0.342
0.6666	-0.339
0.6833	-0.336
0.7000	-0.333

0.7166	-0.333
0.7333	-0.329
0.7500	-0.329
0.7666	-0.329
0.7833	-0.323
0.8000	-0.323
0.8166	-0.320
0.8333	-0.317
0.8500	-0.310
0.8666	-0.314
0.8833	-0.314
0.9000	-0.314
0.9166	-0.310
0.9333	-0.310
0.9500	-0.307
0.9666	-0.307
0.9833	-0.307
1.0000	-0.304
1.2000	-0.285
1.4000	-0.275
1.6000	-0.266
1.8000	-0.256
2.0000	-0.247
2.2000	-0.241
2.4000	-0.231
2.6000	-0.225
2.8000	-0.218
3.0000	-0.212
3.2000	-0.206
3.4000	-0.199
3.6000	-0.193
3.8000	-0.187
4.0000	-0.183
4.2000	-0.177
4.4000	-0.171
4.6000	-0.164
4.8000	-0.161
5.0000	-0.158
5.2000	-0.152
5.4000	-0.149
5.6000	-0.145
5.8000	-0.139
6.0000	-0.136
6.2000	-0.133
6.4000	-0.130
6.6000	-0.126
6.8000	-0.120
7.0000	-0.117
7.2000	-0.114
7.4000	-0.111
7.6000	-0.111
7.8000	-0.104
8.0000	-0.104
8.2000	-0.101
8.4000	-0.098
8.6000	-0.095
8.8000	-0.095
9.0000	-0.091
9.2000	-0.088
9.4000	-0.088
9.6000	-0.085
9.8000	-0.082
10.0000	-0.079
11.0000	-0.069
12.0000	-0.060
13.0000	-0.057
14.0000	-0.050
15.0000	-0.044
16.0000	-0.038
17.0000	-0.034
18.0000	-0.031
19.0000	-0.031
20.0000	-0.028
21.0000	-0.028
22.0000	-0.025
23.0000	-0.022
24.0000	-0.022
25.0000	-0.022
26.0000	-0.028
27.0000	-0.031
28.0000	-0.028
29.0000	-0.028
30.0000	-0.028
31.0000	-0.028
32.0000	-0.028
33.0000	-0.025
34.0000	-0.031
35.0000	-0.031

Rising Head Test for Monitor Well 7-MW5

SE1000C
Environmental Logger
05/17 16:50

Unit# 00831 Test 3

Setups: INPUT 1
------------ ---------
Type Level (F)
Mode TOC
I.D. 07052

Reference 0.000
Linearity 0.030
Scale factor 10.030
Offset 0.040
Delay mSEC 50.000

Step 0 05/16 14:51:16

Elapsed Time	INPUT 1
------------	---------
0.0000	0.345
0.0033	0.377
0.0066	0.409
0.0100	0.012
0.0133	-0.003
0.0166	0.288
0.0200	0.621
0.0233	-0.050
0.0266	0.063
0.0300	0.513
0.0333	0.773
0.0366	0.891
0.0400	1.040
0.0433	1.176
0.0466	1.154
0.0500	1.135
0.0533	1.100
0.0566	1.075
0.0600	1.046
0.0633	1.027
0.0666	0.999
0.0700	0.973
0.0733	0.951
0.0766	0.932
0.0800	0.907
0.0833	0.881
0.0866	0.862
0.0900	0.843
0.0933	0.821
0.0966	0.799
0.1000	0.780
0.1033	0.764
0.1066	0.742
0.1100	0.729
0.1133	0.710
0.1166	0.691
0.1200	0.672
0.1233	0.650
0.1266	0.650
0.1300	0.640
0.1333	0.631
0.1366	0.608
0.1400	0.602
0.1433	0.589
0.1466	0.580
0.1500	0.574
0.1533	0.564
0.1566	0.551
0.1600	0.551
0.1633	0.539
0.1666	0.542
0.1700	0.532
0.1733	0.532
0.1766	0.517
0.1800	0.517
0.1833	0.507
0.1866	0.513
0.1900	0.501
0.1933	0.501
0.1966	0.501
0.2000	0.497
0.2033	0.497
0.2066	0.494
0.2100	0.488
0.2133	0.485
0.2166	0.482
0.2200	0.478
0.2233	0.478
0.2266	0.475
0.2300	0.472
0.2333	0.475
0.2366	0.472
0.2400	0.472
0.2433	0.469
0.2466	0.466
0.2500	0.466
0.2533	0.459
0.2566	0.463
0.2600	0.456
0.2633	0.456
0.2666	0.456
0.2700	0.453
0.2733	0.456
0.2766	0.456
0.2800	0.453
0.2833	0.444
0.2866	0.450
0.2900	0.447
0.2933	0.447
0.2966	0.440
0.3000	0.444
0.3033	0.444
0.3066	0.437
0.3100	0.447
0.3133	0.437
0.3166	0.444
0.3200	0.434
0.3233	0.437
0.3266	0.434
0.3300	0.431
0.3333	0.434
0.3500	0.428
0.3666	0.421
0.3833	0.418
0.4000	0.415
0.4166	0.412
0.4333	0.409
0.4500	0.399
0.4666	0.402
0.4833	0.399
0.5000	0.393
0.5166	0.396
0.5333	0.386
0.5500	0.390
0.5666	0.390
0.5833	0.374
0.6000	0.383
0.6166	0.374
0.6333	0.374
0.6500	0.371
0.6666	0.367
0.6833	0.364
0.7000	0.364

0.7166	0.361	7.8000	0.101
0.7333	0.358	8.0000	0.098
0.7500	0.358	8.2000	0.095
0.7666	0.355	8.4000	0.092
0.7833	0.352	8.6000	0.092
0.8000	0.348	8.8000	0.088
0.8166	0.348	9.0000	0.085
0.8333	0.345	9.2000	0.085
0.8500	0.345	9.4000	0.082
0.8666	0.342	9.6000	0.082
0.8833	0.339	9.8000	0.079
0.9000	0.339	10.0000	0.076
0.9166	0.339	11.0000	0.069
0.9333	0.336	12.0000	0.066
0.9500	0.333	13.0000	0.060
0.9666	0.333	14.0000	0.053
0.9833	0.333	15.0000	0.053
1.0000	0.329	16.0000	0.050
1.2000	0.304	17.0000	0.047
1.4000	0.288	18.0000	0.044
1.6000	0.275	19.0000	0.041
1.8000	0.263	20.0000	0.041
2.0000	0.253	21.0000	0.038
2.2000	0.244	22.0000	0.038
2.4000	0.231	23.0000	0.034
2.6000	0.225	24.0000	0.034
2.8000	0.215	25.0000	0.034
3.0000	0.209	26.0000	0.034
3.2000	0.203	27.0000	0.034
3.4000	0.193	28.0000	0.034
3.6000	0.187	29.0000	0.031
3.8000	0.180	30.0000	0.034
4.0000	0.174	31.0000	0.031
4.2000	0.171	32.0000	0.031
4.4000	0.164	33.0000	0.031
4.6000	0.158	34.0000	0.031
4.8000	0.155	35.0000	0.028
5.0000	0.149	36.0000	0.025
5.2000	0.145		
5.4000	0.139		
5.6000	0.136		
5.8000	0.133		
6.0000	0.130		
6.2000	0.123		
6.4000	0.120		
6.6000	0.117		
6.8000	0.114		
7.0000	0.111		
7.2000	0.107		
7.4000	0.104		
7.6000	0.101		

Falling Head Test for Monitor Well 8-MW2

SE1000C
Environmental Logger
05/17 17:02

Unit# 00831 Test 6

Setups: INPUT 1
------------ ---------
Type Level (F)
Mode TOC
I.D. 08021

Reference 0.000
Linearity 0.030
Scale factor 10.030
Offset 0.040
Delay mSEC 50.000

Step 0 05/17 08:32:46

Elapsed Time	INPUT 1
0.0000	-0.342
0.0033	-0.358
0.0066	-0.780
0.0100	-1.272
0.0133	-1.418
0.0166	-1.434
0.0200	-1.243
0.0233	-0.802
0.0266	-0.678
0.0300	-0.866
0.0333	-1.164
0.0366	-0.996
0.0400	-0.831
0.0433	-0.612
0.0466	-0.612
0.0500	-0.958
0.0533	-0.970
0.0566	-0.850
0.0600	-0.704
0.0633	-0.805
0.0666	-0.745
0.0700	-0.872
0.0733	-0.732
0.0766	-0.767
0.0800	-0.783
0.0833	-0.767
0.0866	-0.758
0.0900	-0.691
0.0933	-0.761
0.0966	-0.780
0.1000	-0.815
0.1033	-0.732
0.1066	-0.685
0.1100	-0.732
0.1133	-0.688
0.1166	-0.710
0.1200	-0.704
0.1233	-0.694
0.1266	-0.701
0.1300	-0.678
0.1333	-0.688
0.1366	-0.669
0.1400	-0.666
0.1433	-0.663
0.1466	-0.656
0.1500	-0.653
0.1533	-0.659
0.1566	-0.637
0.1600	-0.675
0.1633	-0.612
0.1666	-0.628
0.1700	-0.621
0.1733	-0.621
0.1766	-0.615
0.1800	-0.612
0.1833	-0.605
0.1866	-0.602
0.1900	-0.599
0.1933	-0.593
0.1966	-0.590
0.2000	-0.586
0.2033	-0.580
0.2066	-0.577
0.2100	-0.574
0.2133	-0.567
0.2166	-0.564
0.2200	-0.561
0.2233	-0.558
0.2266	-0.555
0.2300	-0.548
0.2333	-0.545
0.2366	-0.542
0.2400	-0.539
0.2433	-0.536
0.2466	-0.529
0.2500	-0.526
0.2533	-0.526
0.2566	-0.520
0.2600	-0.517
0.2633	-0.513
0.2666	-0.510
0.2700	-0.507
0.2733	-0.504
0.2766	-0.501
0.2800	-0.498
0.2833	-0.494
0.2866	-0.491
0.2900	-0.488
0.2933	-0.485
0.2966	-0.482
0.3000	-0.479
0.3033	-0.475
0.3066	-0.472
0.3100	-0.469
0.3133	-0.466
0.3166	-0.463
0.3200	-0.460
0.3233	-0.456
0.3266	-0.453
0.3300	-0.453
0.3333	-0.450
0.3500	-0.434
0.3666	-0.418
0.3833	-0.406
0.4000	-0.393
0.4166	-0.383
0.4333	-0.371
0.4500	-0.361
0.4666	-0.352
0.4833	-0.342
0.5000	-0.333
0.5166	-0.323
0.5333	-0.317
0.5500	-0.307
0.5666	-0.301
0.5833	-0.291
0.6000	-0.285
0.6166	-0.279
0.6333	-0.272
0.6500	-0.266
0.6666	-0.256
0.6833	-0.253
0.7000	-0.250

0.7166	-0.244
0.7333	-0.237
0.7500	-0.234
0.7666	-0.231
0.7833	-0.228
0.8000	-0.225
0.8166	-0.218
0.8333	-0.279
0.8500	-0.212
0.8666	-0.206
0.8833	-0.203
0.9000	-0.196
0.9166	-0.193
0.9333	-0.193
0.9500	-0.190
0.9666	-0.184
0.9833	-0.184
1.0000	-0.180
1.2000	-0.142
1.4000	-0.120
1.6000	-0.107
1.8000	-0.098
2.0000	-0.085
2.2000	-0.079
2.4000	-0.072
2.6000	-0.066
2.8000	-0.063
3.0000	-0.060
3.2000	-0.057
3.4000	-0.053
3.6000	-0.053
3.8000	-0.050
4.0000	-0.050
4.2000	-0.047
4.4000	-0.047
4.6000	-0.044
4.8000	-0.044
5.0000	-0.044
5.2000	-0.041
5.4000	-0.044
5.6000	-0.041
5.8000	-0.041
6.0000	-0.041
6.2000	-0.041
6.4000	-0.041
6.6000	-0.041
6.8000	-0.041
7.0000	-0.041
7.2000	-0.041
7.4000	-0.038
7.6000	-0.038
7.8000	-0.038
8.0000	-0.038
8.2000	-0.038
8.4000	-0.038
8.6000	-0.038
8.8000	-0.034
9.0000	-0.038
9.2000	-0.034
9.4000	-0.038
9.6000	-0.041
9.8000	-0.038
10.0000	-0.038
11.0000	-0.034
12.0000	-0.031
13.0000	-0.031
14.0000	-0.034
15.0000	-0.031
16.0000	-0.031
17.0000	-0.034
18.0000	-0.038
19.0000	-0.038
20.0000	-0.038
21.0000	-0.034
22.0000	-0.034
23.0000	-0.034
24.0000	-0.034
25.0000	-0.038
26.0000	-0.034
27.0000	-0.034
28.0000	-0.038
29.0000	-0.041
30.0000	-0.034
31.0000	-0.034
32.0000	-0.034
33.0000	-0.031
34.0000	-0.034
35.0000	-0.034
36.0000	-0.044

Rising Head Test for Monitor Well 8-MW2

SE1000C
Environmental Logger
05/17 17:05

Unit# 00831 Test 7

Setups: INPUT 1
------------ ---------
Type Level (F)
Mode TOC
I.D. 08022

Reference 0.000
Linearity 0.030
Scale factor 10.030
Offset 0.040
Delay mSEC 50.000

Step 0 05/17 09:11:33

Elapsed Time	INPUT 1
0.0000	1.091
0.0033	1.313
0.0066	1.287
0.0100	1.281
0.0133	1.262
0.0166	1.237
0.0200	1.268
0.0233	1.202
0.0266	1.183
0.0300	1.164
0.0333	1.116
0.0366	1.135
0.0400	1.097
0.0433	1.110
0.0466	1.087
0.0500	1.081
0.0533	1.049
0.0566	1.046
0.0600	0.976
0.0633	0.976
0.0666	0.999
0.0700	0.986
0.0733	0.983
0.0766	0.916
0.0800	0.942
0.0833	0.910
0.0866	0.916
0.0900	0.910
0.0933	0.878
0.0966	0.878
0.1000	0.862
0.1033	0.853
0.1066	0.840
0.1100	0.834
0.1133	0.815
0.1166	0.802
0.1200	0.805
0.1233	0.783
0.1266	0.777
0.1300	0.764
0.1333	0.754
0.1366	0.742
0.1400	0.732
0.1433	0.723
0.1466	0.720
0.1500	0.707
0.1533	0.694
0.1566	0.672
0.1600	0.669
0.1633	0.669
0.1666	0.653
0.1700	0.650
0.1733	0.640
0.1766	0.634
0.1800	0.631
0.1833	0.615
0.1866	0.609
0.1900	0.602
0.1933	0.599
0.1966	0.586
0.2000	0.583
0.2033	0.577
0.2066	0.570
0.2100	0.561
0.2133	0.555
0.2166	0.520
0.2200	0.551
0.2233	0.532
0.2266	0.532
0.2300	0.520
0.2333	0.520
0.2366	0.510
0.2400	0.513
0.2433	0.491
0.2466	0.494
0.2500	0.485
0.2533	0.482
0.2566	0.475
0.2600	0.475
0.2633	0.466
0.2666	0.447
0.2700	0.456
0.2733	0.450
0.2766	0.447
0.2800	0.447
0.2833	0.437
0.2866	0.434
0.2900	0.418
0.2933	0.425
0.2966	0.421
0.3000	0.415
0.3033	0.412
0.3066	0.412
0.3100	0.402
0.3133	0.402
0.3166	0.396
0.3200	0.393
0.3233	0.390
0.3266	0.390
0.3300	0.383
0.3333	0.380
0.3500	0.364
0.3666	0.345
0.3833	0.336
0.4000	0.320
0.4166	0.304
0.4333	0.288
0.4500	0.285
0.4666	0.272
0.4833	0.263
0.5000	0.256
0.5166	0.253
0.5333	0.241
0.5500	0.234
0.5666	0.225
0.5833	0.222
0.6000	0.215
0.6166	0.212
0.6333	0.206
0.6500	0.203
0.6666	0.196
0.6833	0.193
0.7000	0.187

0.7166	0.187
0.7333	0.180
0.7500	0.177
0.7666	0.171
0.7833	0.171
0.8000	0.168
0.8166	0.161
0.8333	0.161
0.8500	0.158
0.8666	0.152
0.8833	0.149
0.9000	0.149
0.9166	0.145
0.9333	0.142
0.9500	0.142
0.9666	0.139
0.9833	0.136
1.0000	0.136
1.2000	0.111
1.4000	0.098
1.6000	0.082
1.8000	0.079
2.0000	0.063
2.2000	0.060
2.4000	0.053
2.6000	0.057
2.8000	0.050
3.0000	0.044
3.2000	0.044
3.4000	0.038
3.6000	0.038
3.8000	0.038
4.0000	0.038
4.2000	0.041
4.4000	0.034
4.6000	0.041
4.8000	0.038
5.0000	0.038
5.2000	0.038
5.4000	0.034
5.6000	0.034
5.8000	0.031
6.0000	0.031
6.2000	0.038
6.4000	0.034
6.6000	0.031
6.8000	0.034
7.0000	0.034
7.2000	0.038
7.4000	0.034
7.6000	0.034
7.8000	0.031
8.0000	0.031
8.2000	0.034
8.4000	0.031
8.6000	0.034
8.8000	0.028
9.0000	0.028
9.2000	0.028
9.4000	0.031
9.6000	0.025
9.8000	0.031
10.0000	0.031
11.0000	0.028
12.0000	0.034
13.0000	0.034
14.0000	0.034
15.0000	0.038
16.0000	0.034
17.0000	0.028
18.0000	0.031
19.0000	0.028
20.0000	0.031
21.0000	0.028
22.0000	0.025
23.0000	0.028
24.0000	0.031
25.0000	0.031
26.0000	0.025

Falling Head Test for Monitor Well 8-MW4

SE1000C
Environmental Logger
05/17 17:08

Unit# 00831 Test 8

Setups: INPUT 1
------------ ---------
Type Level (F)
Mode TOC
I.D. 08041

Reference 0.000
Linearity 0.030
Scale factor 10.030
Offset 0.040
Delay mSEC 50.000

Step 0 05/17 10:15:08

Elapsed Time	INPUT 1
0.0000	0.009
0.0033	-0.428
0.0066	-0.764
0.0100	-1.541
0.0133	-1.119
0.0166	-0.418
0.0200	-1.014
0.0233	-0.713
0.0266	-0.868
0.0300	-0.358
0.0333	-0.275
0.0366	-0.123
0.0400	-0.418
0.0433	-0.561
0.0466	-0.659
0.0500	-0.561
0.0533	-0.244
0.0566	-0.088
0.0600	-0.440
0.0633	-0.516
0.0666	-0.459
0.0700	-0.282
0.0733	-0.345
0.0766	-0.462
0.0800	-0.459
0.0833	-0.383
0.0866	-0.351
0.0900	-0.421
0.0933	-0.434
0.0966	-0.396
0.1000	-0.393
0.1033	-0.412
0.1066	-0.399
0.1100	-0.405
0.1133	-0.405
0.1166	-0.402
0.1200	-0.405
0.1233	-0.402
0.1266	-0.402
0.1300	-0.405
0.1333	-0.402
0.1366	-0.405
0.1400	-0.405
0.1433	-0.402
0.1466	-0.405
0.1500	-0.402
0.1533	-0.402
0.1566	-0.396
0.1600	-0.412
0.1633	-0.402
0.1666	-0.412
0.1700	-0.399
0.1733	-0.405
0.1766	-0.380
0.1800	-0.393
0.1833	-0.447
0.1866	-0.383
0.1900	-0.339
0.1933	-0.497
0.1966	-0.412
0.2000	-0.377
0.2033	-0.393
0.2066	-0.501
0.2100	-0.342
0.2133	-0.323
0.2166	-0.428
0.2200	-0.447
0.2233	-0.399
0.2266	-0.364
0.2300	-0.402
0.2333	-0.412
0.2366	-0.399
0.2400	-0.396
0.2433	-0.402
0.2466	-0.396
0.2500	-0.402
0.2533	-0.399
0.2566	-0.402
0.2600	-0.402
0.2633	-0.399
0.2666	-0.390
0.2700	-0.402
0.2733	-0.396
0.2766	-0.399
0.2800	-0.399
0.2833	-0.393
0.2866	-0.402
0.2900	-0.396
0.2933	-0.399
0.2966	-0.399
0.3000	-0.399
0.3033	-0.396
0.3066	-0.399
0.3100	-0.396
0.3133	-0.399
0.3166	-0.396
0.3200	-0.396
0.3233	-0.396
0.3266	-0.396
0.3300	-0.396
0.3333	-0.396
0.3500	-0.393
0.3666	-0.396
0.3833	-0.393
0.4000	-0.393
0.4166	-0.393
0.4333	-0.393
0.4500	-0.393
0.4666	-0.390
0.4833	-0.386
0.5000	-0.386
0.5166	-0.390
0.5333	-0.386
0.5500	-0.386
0.5666	-0.383
0.5833	-0.386
0.6000	-0.390
0.6166	-0.386
0.6333	-0.383
0.6500	-0.383
0.6666	-0.396
0.6833	-0.383
0.7000	-0.383

0.7166	-0.380
0.7333	-0.383
0.7500	-0.383
0.7666	-0.380
0.7833	-0.377
0.8000	-0.377
0.8166	-0.374
0.8333	-0.351
0.8500	-0.383
0.8666	-0.377
0.8833	-0.374
0.9000	-0.374
0.9166	-0.374
0.9333	-0.374
0.9500	-0.367
0.9666	-0.332
0.9833	-0.605
1.0000	-0.501
1.2000	-0.361
1.4000	-0.355
1.6000	-0.345
1.8000	-0.336
2.0000	-0.323
2.2000	-0.288
2.4000	-0.253
2.6000	-0.218
2.8000	-0.183
3.0000	-0.158
3.2000	-0.136
3.4000	-0.114
3.6000	-0.098
3.8000	-0.088
4.0000	-0.076
4.2000	-0.066
4.4000	-0.063
4.6000	-0.057
4.8000	-0.053
5.0000	-0.047
5.2000	-0.047
5.4000	-0.041
5.6000	-0.034
5.8000	-0.031
6.0000	-0.031
6.2000	-0.028
6.4000	-0.025
6.6000	-0.022
6.8000	-0.022
7.0000	-0.019
7.2000	-0.015
7.4000	-0.015
7.6000	-0.015
7.8000	-0.015
8.0000	-0.012
8.2000	-0.009
8.4000	-0.006
8.6000	-0.006
8.8000	-0.009
9.0000	-0.006
9.2000	-0.003
9.4000	-0.006
9.6000	-0.003
9.8000	-0.003
10.0000	-0.003
11.0000	0.000
12.0000	0.006
13.0000	0.009
14.0000	0.012
15.0000	0.009
16.0000	0.012
17.0000	0.015
18.0000	0.015
19.0000	0.015
20.0000	0.015
21.0000	0.019
22.0000	0.019
23.0000	0.015
24.0000	0.015
25.0000	0.009
26.0000	0.015
27.0000	0.012
28.0000	0.012

Rising Head Test for Monitor Well 8-MW4

SE1000C
Environmental Logger
05/17 17:11

Unit# 00831 Test 9

Setups: INPUT 1
------------ ---------
Type Level (F)
Mode TOC
I.D. 08042

Reference 0.000
Linearity 0.030
Scale factor 10.030
Offset 0.040
Delay mSEC 50.000

Step 0 05/17 10:44:31

Elapsed Time	INPUT 1
0.0000	0.152
0.0033	1.084
0.0066	0.586
0.0100	1.014
0.0133	1.214
0.0166	1.359
0.0200	1.309
0.0233	1.299
0.0266	1.268
0.0300	1.249
0.0333	1.249
0.0366	1.220
0.0400	1.236
0.0433	1.204
0.0466	1.214
0.0500	1.198
0.0533	1.198
0.0566	1.185
0.0600	1.176
0.0633	1.169
0.0666	1.160
0.0700	1.153
0.0733	1.122
0.0766	1.144
0.0800	1.131
0.0833	1.128
0.0866	1.115
0.0900	1.109
0.0933	1.103
0.0966	1.084
0.1000	1.093
0.1033	1.077
0.1066	1.071
0.1100	1.077
0.1133	1.062
0.1166	1.052
0.1200	1.043
0.1233	1.039
0.1266	1.030
0.1300	1.024
0.1333	1.020
0.1366	1.008
0.1400	1.008
0.1433	1.004
0.1466	0.989
0.1500	0.985
0.1533	0.976
0.1566	0.973
0.1600	0.966
0.1633	0.957
0.1666	0.954
0.1700	0.941
0.1733	0.941
0.1766	0.932
0.1800	0.932
0.1833	0.922
0.1866	0.916
0.1900	0.913
0.1933	0.900
0.1966	0.897
0.2000	0.887
0.2033	0.884
0.2066	0.871
0.2100	0.875
0.2133	0.862
0.2166	0.865
0.2200	0.852
0.2233	0.849
0.2266	0.840
0.2300	0.833
0.2333	0.830
0.2366	0.824
0.2400	0.814
0.2433	0.814
0.2466	0.808
0.2500	0.798
0.2533	0.795
0.2566	0.789
0.2600	0.786
0.2633	0.779
0.2666	0.776
0.2700	0.770
0.2733	0.767
0.2766	0.757
0.2800	0.751
0.2833	0.751
0.2866	0.745
0.2900	0.729
0.2933	0.738
0.2966	0.722
0.3000	0.726
0.3033	0.713
0.3066	0.716
0.3100	0.707
0.3133	0.713
0.3166	0.694
0.3200	0.697
0.3233	0.684
0.3266	0.681
0.3300	0.678
0.3333	0.672
0.3500	0.656
0.3666	0.624
0.3833	0.599
0.4000	0.589
0.4166	0.570
0.4333	0.538
0.4500	0.532
0.4666	0.513
0.4833	0.494
0.5000	0.481
0.5166	0.469
0.5333	0.456
0.5500	0.447
0.5666	0.434
0.5833	0.418
0.6000	0.415
0.6166	0.402
0.6333	0.396
0.6500	0.386
0.6666	0.383
0.6833	0.374
0.7000	0.370

0.7166	0.364
0.7333	0.358
0.7500	0.355
0.7666	0.355
0.7833	0.345
0.8000	0.332
0.8166	0.317
0.8333	0.326
0.8500	0.320
0.8666	0.317
0.8833	0.313
0.9000	0.310
0.9166	0.304
0.9333	0.301
0.9500	0.301
0.9666	0.266
0.9833	0.288
1.0000	0.282
1.2000	0.244
1.4000	0.221
1.6000	0.202
1.8000	0.190
2.0000	0.174
2.2000	0.161
2.4000	0.149
2.6000	0.139
2.8000	0.133
3.0000	0.123
3.2000	0.123
3.4000	0.110
3.6000	0.107
3.8000	0.095
4.0000	0.085
4.2000	0.079
4.4000	0.076
4.6000	0.072
4.8000	0.069
5.0000	0.066
5.2000	0.063
5.4000	0.063
5.6000	0.053
5.8000	0.050
6.0000	0.047
6.2000	0.047
6.4000	0.044
6.6000	0.041
6.8000	0.041
7.0000	0.038
7.2000	0.034
7.4000	0.031
7.6000	0.031
7.8000	0.028
8.0000	0.028
8.2000	0.028
8.4000	0.025
8.6000	0.022
8.8000	0.025
9.0000	0.022
9.2000	0.022
9.4000	0.019
9.6000	0.019
9.8000	0.019
10.0000	0.019
11.0000	0.015
12.0000	0.019
13.0000	0.015
14.0000	0.015
15.0000	0.015
16.0000	0.009
17.0000	0.009
18.0000	0.009
19.0000	0.006

APPENDIX I

SURVEY DATA

OPTECH

OPERATIONAL TECHNOLOGIES
CORPORATION

June 12, 1996

Mr. Fritz Lebow
Lockheed Martin Energy Systems, Inc.
831 Tri-County Boulevard
Oliver Springs, Tennessee 37840

Re: Montana Air National Guard
Great Falls, Montana
Subcontract No. 95K-GWU13V

Dear Mr. Lebow:

Enclosed please find the survey information for the above referenced project in hard and electronic copy.

Sincerely,

David Bunn
Project Manager

cc: File

683 Emory Valley Road • Oak Ridge, Tennessee • (423) 483-8020 • Fax (423) 483-2800

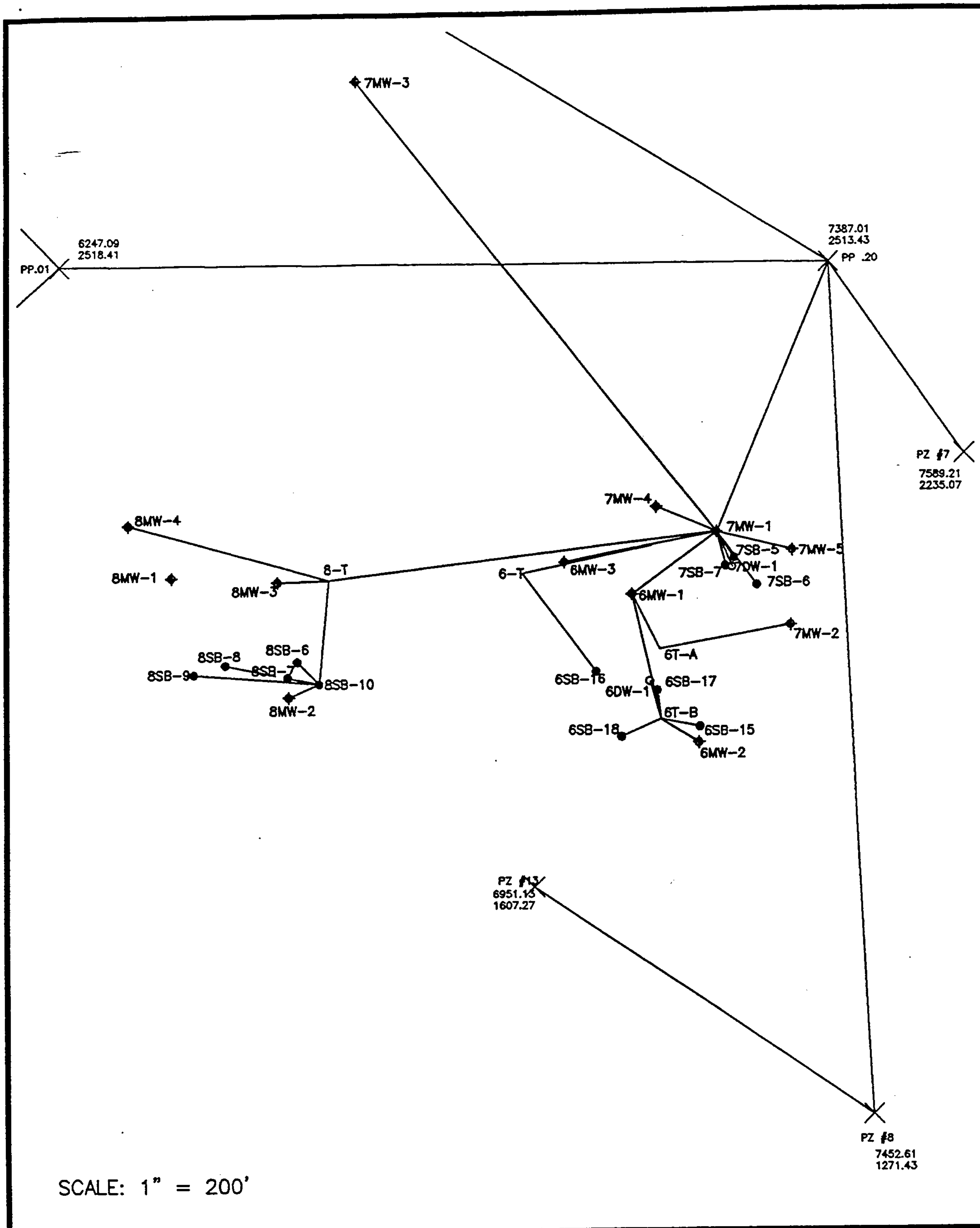
OPTECH AIR NATIONAL GUARD

MAY 1996

Test Hole #	North	East	Elevation		
1MW-1	4018.41	6395.48	Brass Cap	=	3654.48
2MW-1	4216.72	5134.37	Brass Cap	=	3656.93
1MW-2	3495.95	6614.78	Top Steel	=	3653.35
			Top PVC	=	3652.69
			Ground	=	3550.91
7MW-1	7220.05	2123.93	Brass Cap	=	3675.45
7MW-2	7330.81	1987.35	Top PVC	=	3676.21
			Ground	=	3676.53
7MW-3	6687.51	2784.85	Top PVC	=	3667.82
			Ground	=	3667.31
7MW-4	7131.83	2160.56	Top PVC	=	3675.98
			Ground	=	3676.29
7MW-5	7332.93	2095.92	Top PVC	=	3675.55
			Ground	=	3675.81
7SB-5	7246.62	2085.32	Pavement	=	3675.79
7SB-6	7280.78	2045.66	Ground	=	3676.50
7SB-7	7233.53	2073.82	Pavement	=	3675.97
7DW-1	7243.57	2071.90	Ground	=	3676.10
6MW-1	7096.76	2034.19	Brass Cap	=	3676.52
			(has been moved)		
6MW-2	7193.73	1817.64	Top PVC	=	3675.86
			Ground	=	3676.16

Test Hole #	North	East	Elevation		
6MW-3	6996.51	2080.84	Top PVC	=	3676.32
			Ground	=	3676.60
6-SB-15	7195.37	1840.46	Pavement	=	3676.16
6-SB-16	7043.63	1921.21	Concrete	=	3676.69
6-SB-17	7133.07	1893.36	Pavement	=	3676.54
6-SB-18	7081.28	1826.76	Pavement	=	3676.42
6-DW-1	7122.27	1906.85	Pavement	=	3676.35
8MW-2	6585.74	1887.25	Top PVC	=	3675.64
			Pavement	=	3675.90
8MW-3	6569.63	2055.04	Top PVC	=	3675.66
			Pavement	=	3675.96
8MW-4	6349.01	2140.48	Top PVC	=	3674.68
			Pavement	=	3674.98
8SB-6	6598.45	1939.17	Pavement	=	3675.99
8SB-7	6584.55	1916.17	Pavement	=	3675.79
8SB-8	6492.51	1934.73	Pavement	=	3675.95
8SB-9	6445.75	1921.33	Pavement	=	3675.93
8SB-10	6631.33	1906.41	Pavement	=	3675.00

The elevations given to Delta Engineering were listed in meters and only to the nearest 0.10m (0.01m = 0.31Ft.). Therefore, the elevations may vary ± 0.15 Ft.



DATE: MAY 1996

MINING GEOLOGY CIVIL

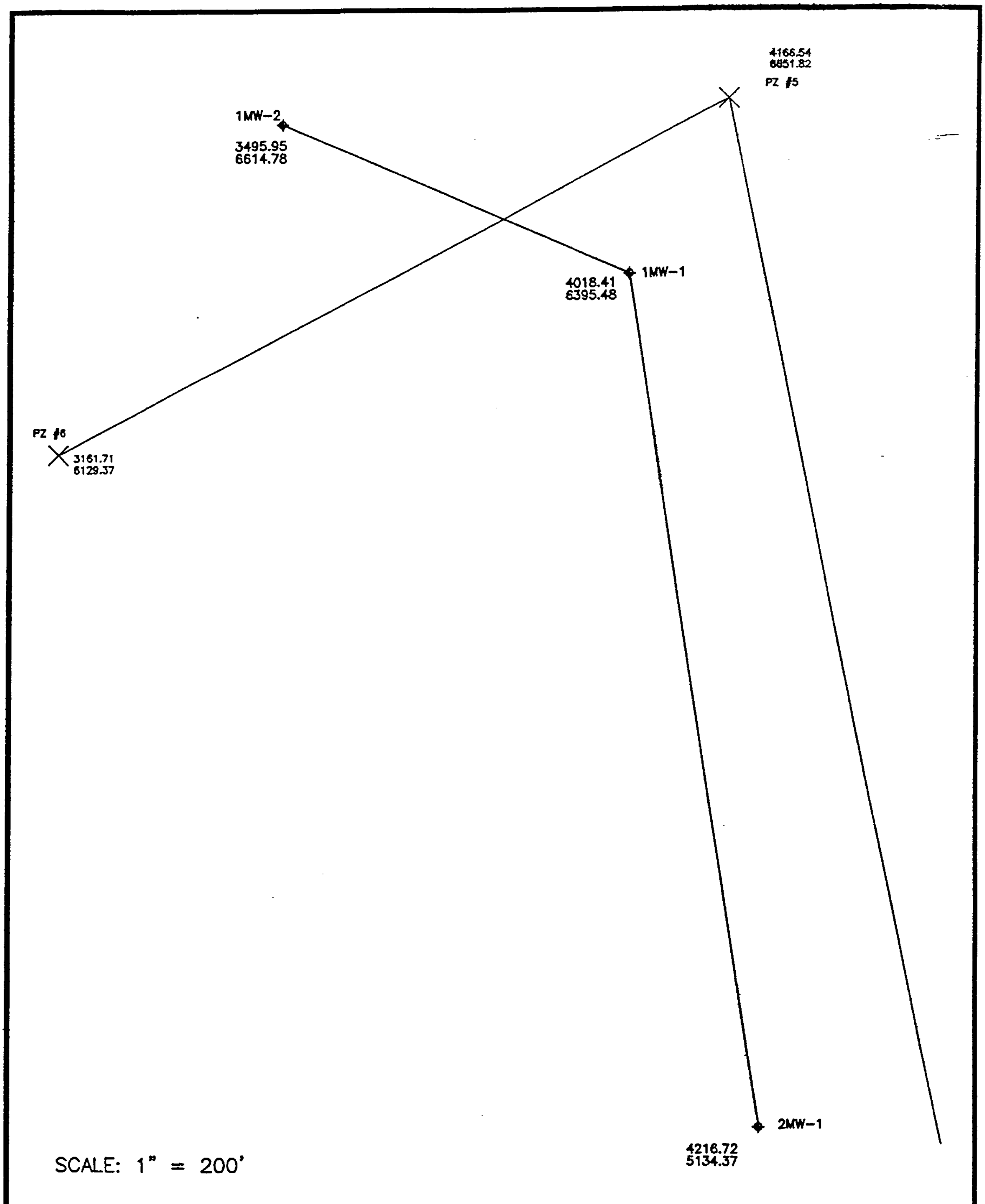
DELTA ENGINEERING

GREAT FALLS, MONTANA

HANGAR AREA

GREAT FALLS AIRPORT

FILE NAME



DATE: MAY 1996

MINING GEOLOGY CIVIL

DELTA ENGINEERING
GREAT FALLS, MONTANA

WEST END
GREAT FALLS AIRPORT

APPENDIX J

INVESTIGATION DERIVED WASTE

CITY OF GREAT FALLS
MONTANA
P.O. Box 5021, 59403-5021
Telephone 406 / 727-5881

October 7, 1996

William H. Hedberg, Hydrogeologist
Hazardous Waste Remedial Actions Program
831 Tri-County Boulevard
Oliver Springs, TN 37840

Dear Bill:

As we discussed, Montana Air National Guard is permitted to dispose of the decontamination, purge and development water described in your letter of September 25, 1996 to the sanitary sewer under the following conditions:

- The 150 gallons of decontamination water must be diluted with 150 gallons of potable water prior to discharge.

- The diluted decontamination water must be discharged during the day with the discharge spread over a period of several hours at a reasonably constant rate.

There are no conditions imposed on the discharge of the purge and development water. If you have any questions or comments, please feel free to contact me at 406-727-1325.

Sincerely,

Mike Jacobson, Public Utilities Plant Supervisor
City of Great Falls/Water Plant

cc: Read File (2)

Lockheed Martin Energy Systems

Post Office Box 2003 Oak Ridge, Tennessee 37831 - 7606
Telephone: 423-435-3572 Facsimile: 423-435-3269

LOCKHEED MARTIN

September 25, 1996

Mr. Dave Dobbs, City Engineer
Department of Public Works
City of Great Falls
Post Office Box 5021
Great Falls, Montana 59403

Dear Mr. Dobbs:

Disposal of Containerized Water at the Montana Air National Guard Base, Great Falls International Airport, Great Falls, Montana

The Hazardous Waste Remedial Actions Program (HAZWRAP) and its subcontractor, Operational Technologies (OpTech), have completed remedial investigation field activities at the Montana Air National Guard Base, Great Falls International Airport, Great Falls, Montana. Activities associated with the investigation generated two containers of waste waters: one 1100-gallon polyethylene tank containing water from the development and purging of groundwater monitoring wells, and a second 550-gallon polyethylene tank containing water generated from the decontamination of sampling and drilling equipment.

On behalf of the Montana Air National Guard, HAZWRAP is requesting permission from the Department of Public Works, City of Great Falls to discharge these contained volumes of water into the sanitary sewer system of the Montana Air National Guard Base. Analytical results from the sampling of the two containers, DCPW-1 (decontamination water) and PADW-1 (purge and development water) are attached. Based on the analytical results obtained from the laboratory, the organic and inorganic constituents appear to be acceptable for discharge into the sanitary sewer system. The acetone concentrations reported are associated with the use of isopropanol, a commonly utilized decontamination fluid. The volume of water in container DCPW-1 is estimated to be 150 gallons and that in container PADW-1 is estimated to be 550 gallons.

Due to the approaching winter and attendant freeze problems, we would appreciate your approval for the discharge as soon as possible. We will notify the appropriate water department personnel before discharging any liquids. If you have any questions regarding this submittal please feel free to contact me at 423-435-3572.

Sincerely,

William H. Hedberg

William H. Hedberg, Hydrogeologist
Hazardous Waste Remedial Actions Program

WHH:rmf

Attachments

406-727-1325

c: Mike Frey, ANGRC
Aimee Reynolds, Montana DEQ
Mike Jacobsen, Dept of Public Works
Iver Johnson, Montana ANG
J. W. Johnston, HAZWRAP

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

PADW-1

Lab Name: Laucks Testing Labs

SDG No.: OP11X

Lab Sample ID: 9607483-02

Date Received: 07/15/96

Lab File ID: U0723017.D

Date Analyzed: 07/23/96

Purge Vol: 25.0 ML

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	20	
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	2.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	2.2	
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	1.0	U
67-66-3	Chloroform	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
71-43-2	Benzene	0.36	J
79-01-6	Trichloroethene	0.15	J
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	0.11	J
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
75-25-2	Bromoform	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
1330-20-7	Xylene (total)	0.19	J

FORM I VOA

Form Ver. 1.0 4-22-96

1E

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

PADW-1

SDG No.: OP11X

Lab Name: Laucks Testing Labs

Matrix: (soil/water) WATER

Date Received: 07/15/96

Lab Sample ID: 9607483-02

Date Analyzed: 07/23/96

Lab File ID: U0723017.D

Dilution Factor: 1.0

Purge Vol: 25.0 (g/ml) ML

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
PADW-1

Lab Name: Laucks Testing Laboratory Contract:

Lab Code: Case No.: SAS No.: SDG No.: OP11X

Matrix: (soil/water) WATER Lab Sample ID: 9607483-02

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LU072405.D

Level: (low/med) LOW Date Received: 07/15/96

% Moisture: decanted:(Y/N) N Date Extracted: 07/16/96

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/24/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
83-32-9	Acenaphthene	10	U
99-09-2	3-Nitroaniline	25	U
51-28-5	2,4-Dinitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
100-02-7	4-Nitrophenol	25	U
86-73-7	Fluorene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

PADW-1

Lab Name: Laucks Testing Laboratory Contract:

Lab Code: Case No.: SAS No.: SDG No.: OP11X

Matrix: (soil/water) WATER Lab Sample ID: 9607483-02

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LU072405.D

Level: (low/med) LOW Date Received: 07/15/96

% Moisture: decanted:(Y/N) N Date Extracted: 07/16/96

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/24/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
7005-72-3	4-Chlorophenyl-phenylether	10	U
84-66-2	Diethylphthalate	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	n-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo[a]anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	1	JB
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[a,h]anthracene	10	U
191-24-2	Benzo[g,h,i]perylene	10	U

FORM I SV-2

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

PADW-1

Lab Name: Laucks Testing Laboratory Contract:

Lab Code: Case No.: SAS No.: SDG No.: OP11X

Matrix: (soil/water) WATER Lab Sample ID: 9607483-02

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LU072405.D

Level: (low/med) LOW Date Received: 07/15/96

% Moisture: decanted: (Y/N) N Date Extracted: 07/16/96

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/24/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9

CONCENTRATION UNITS:

Number TICs found: 7 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown alcohol	8.09	3	J B
2.	unknown alcohol	8.34	2	J B
3. 000100-42-5	Styrene	8.61	4	JN
4. 000120-40-1	Dodecanamide, N,N-bis(2-hydrox	22.03	2	JN
5. 000057-10-3	Hexadecanoic acid	27.64	2	JN
6.	unknown	29.63	4	J
7.	unknown	37.40	3	J

FORM I SV-TIC

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

HPADW1

Lab Name: LAUCKS TESTING LABS. INC. Contract:

Lab Code: LAUCKS Case No.: SAS No.: SDG No.: CP11X

Matrix (soil/water): WATER Lab Sample ID: 07483-02

Level (low/med): LOW Date Received: 07/13/96

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony	5.0	U		P
7440-38-2	Arsenic	1.8	B		F
7440-39-3	Barium	29.9	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium				
7440-47-3	Chromium	6.0	U		P
7440-48-4	Cobalt				
7440-50-8	Copper	4.0	U		P
7439-89-6	Iron				
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	5.0	U		P
7440-09-7	Potassium				
7782-49-2	Selenium	1.8	B		F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium				
7440-28-0	Thallium	2.0	U	W	F
7440-62-2	Vanadium				
7440-66-6	Zinc	9.2	B		P
	Cyanide				

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:
CLIENT ID: PADW-1

272

Organics Analysis Data Sheet

Lab Name: LAUCKS TESTING LABS

Lab Sample ID : 9607483-02
Client ID : PADW-1

Matrix : WATER
Reporting Units: ug/L

Sample Size : 1.00 ml
Final Ext Vol : 1.0
Percent Moist : 100

Collection Date: 07/11/96
Date Received : 07/15/96
Ext Started : 07/18/96
Ext Completed : 07/18/96
Date Analyzed : 07/18/96
Date Confirmed : 07/18/96
Dil Factor : 1.0

CAS No.	Compound	Result	SDL
------------	Gasoline range	250 U	250

SDL = Sample Detection Limit

Form OADS GC

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 9607483-02
Client Sample ID : PADW-1
Matrix : WATER
Reporting Units : mg/L

Sample Size(ml) : 400
Final Volume(ml) : 2
Percent Moisture : 100

Collection Date : 7/11/96
Date Recieved : 7/15/96

Date Extracted : 7/16/96
Date Analyzed : 7/20/96
Time Analyzed : 11:41

Dilution Factor : 1

Compound	Result	RL
Diesel	0.26	0.25
Motor Oil	1.0 U	1.0
Surrogate(s)	**% Rec**	**Limits**
2-Fluorobiphenyl	104	50 - 150
p-Terphenyl	112	50 - 150

RL = Reporting limit.

Comment The hydrocarbon pattern does not indicate diesel.

REPORT ON SAMPLE: 9607483-02C
Client Sample ID: PADW-1

Collection Date	: 07/11/96	Test Code	: JP4W
Date Received	: 07/15/96	Test Method	: M8015
Date Analyzed	: 07/25/96	Extraction Method	: SW 3510
Date Prepared	: 07/16/96		

Analyte	Result (mg/L)		IDF	PQL (mg/L)
JP-4	0.25	U	1	0.25

Surrogate recovery report for sample 9607483-02C

Surrogate	Percent Recovery	Limits: Min.	Max.
2-Fluorobiphenyl	92	50	150

* = Indicates that recovery is outside control limits

Comments:

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

DCPW-1

Lab Name: Laucks Testing Labs

SDG No.: OP11X

Lab Sample ID: 9607483-01

Date Received: 07/15/96

Lab File ID: U0723014.D

Date Analyzed: 07/23/96

Purge Vol: 25.0 ML

Dilution Factor: 20.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	20	U
75-01-4	Vinyl chloride	20	U
74-83-9	Bromomethane	20	U
75-00-3	Chloroethane	20	U
75-35-4	1,1-Dichloroethene	20	U
67-64-1	Acetone	6600	E
75-15-0	Carbon disulfide	20	U
75-09-2	Methylene chloride	4.8	JB
156-60-5	trans-1,2-Dichloroethene	20	U
75-34-3	1,1-Dichloroethane	20	U
156-59-2	cis-1,2-Dichloroethene	20	U
78-93-3	2-Butanone	100	U
74-97-5	Bromochloromethane	20	U
67-66-3	Chloroform	20	U
107-06-2	1,2-Dichloroethane	20	U
71-55-6	1,1,1-Trichloroethane	20	U
56-23-5	Carbon tetrachloride	20	U
71-43-2	Benzene	20	U
79-01-6	Trichloroethene	20	U
78-87-5	1,2-Dichloropropane	20	U
75-27-4	Bromodichloromethane	20	U
10061-01-5	cis-1,3-Dichloropropene	20	U
108-10-1	4-Methyl-2-pentanone	100	U
108-88-3	Toluene	20	U
10061-02-6	trans-1,3-Dichloropropene	20	U
79-00-5	1,1,2-Trichloroethane	20	U
127-18-4	Tetrachloroethene	20	U
591-78-6	2-Hexanone	100	U
124-48-1	Dibromochloromethane	20	U
106-93-4	1,2-Dibromoethane	20	U
108-90-7	Chlorobenzene	20	U
100-41-4	Ethylbenzene	20	U
100-42-5	Styrene	20	U
79-34-5	1,1,2,2-Tetrachloroethane	20	U
75-25-2	Bromoform	20	U
541-73-1	1,3-Dichlorobenzene	20	U
106-46-7	1,4-Dichlorobenzene	20	U
95-50-1	1,2-Dichlorobenzene	20	U
96-12-8	1,2-Dibromo-3-chloropropane	20	U
1330-20-7	Xylene (total)	20	U

FORM I VOA

Form Ver. 1.0 4-22-96

1E

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

DCPW-1

SDG No.: OP11X

Lab Name: Laucks Testing Labs

Matrix: (soil/water) WATER

Date Received: 07/15/96

Lab Sample ID: 9607483-01

Date Analyzed: 07/23/96

Lab File ID: U0723014.D

Dilution Factor: 20.0

Purge Vol: 25.0 (g/ml) ML

Number TICs found: ~~0~~ 1

} mo 8/8/96

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1. 000067-63-0	Isopropyl Alcohol	2.24	1800	JN

ug/l

1LCA
LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

DCPW-1DL

Lab Name: Laucks Testing Labs

SDG No.: OP11X

Lab Sample ID: 9607483-01DL

Date Received: 07/15/96

Lab File ID: U0723016.D

Date Analyzed: 07/23/96

Purge Vol: 25.0 ML

Dilution Factor: 100.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	100	U
75-01-4	Vinyl chloride	100	U
74-83-9	Bromomethane	100	U
75-00-3	Chloroethane	100	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	8300	D 8/14/96
75-15-0	Carbon disulfide	100	U
75-09-2	Methylene chloride	45	JBD 8/17/96
156-60-5	trans-1,2-Dichloroethene	100	U
75-34-3	1,1-Dichloroethane	100	U
156-59-2	cis-1,2-Dichloroethene	100	U
78-93-3	2-Butanone	500	U
74-97-5	Bromochloromethane	100	U
67-66-3	Chloroform	100	U
107-06-2	1,2-Dichloroethane	100	U
71-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon tetrachloride	100	U
71-43-2	Benzene	100	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
75-27-4	Bromodichloromethane	100	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-pentanone	500	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	100	U
79-00-5	1,1,2-Trichloroethane	100	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	500	U
124-48-1	Dibromochloromethane	100	U
106-93-4	1,2-Dibromoethane	100	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	100	U
100-42-5	Styrene	100	U
79-34-5	1,1,2,2-Tetrachloroethane	100	U
75-25-2	Bromoform	100	U
541-73-1	1,3-Dichlorobenzene	100	U
106-46-7	1,4-Dichlorobenzene	100	U
95-50-1	1,2-Dichlorobenzene	100	U
96-12-8	1,2-Dibromo-3-chloropropane	100	U
1330-20-7	Xylene (total)	100	U

FORM I VOA

Form Ver. 1.0 4-22-96

1E

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

DCPW-1DL

Lab Name: Laucks Testing Labs

SDG No.: OP11X

Matrix: (soil/water) WATER

Date Received: 07/15/96

Lab Sample ID: 9607483-01DL

Date Analyzed: 07/23/96

Lab File ID: U0723016.D

Dilution Factor: 100.0

Purge Vol: 25.0 (g/ml) ML

Number TICs found: 1

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1. 000067-63-0	Isopropyl Alcchol	2.20	1900	JN

FORM I VOA-TIC

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

DCPW-1

Lab Name: Laucks Testing Laboratory Contract:

Lab Code: Case No.: SAS No.: SDG No.: OP11X

Matrix: (soil/water) WATER Lab Sample ID: 9607483-01

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LU072404.D

Level: (low/med) LOW Date Received: 07/15/96

% Moisture: decanted:(Y/N) N Date Extracted: 07/16/96

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/24/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
111-44-4	bis(2-Chloroethyl)ether	10	U
108-95-2	Phenol	42	
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
108-60-1	2,2'- oxybis(1-chloropropane)	10	U
95-48-7	2-Methylphenol	10	U
67-72-1	Hexachloroethane	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
106-44-5	4-Methylphenol	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	25	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	25	U
208-96-8	Acenaphthylene	10	U
131-11-3	Dimethylphthalate	10	U
606-20-2	2,6-Dinitrotoluene	10	U
83-32-9	Acenaphthene	10	U
99-09-2	3-Nitroaniline	25	U
51-28-5	2,4-Dinitrophenol	25	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
100-02-7	4-Nitrophenol	25	U

FORM I SV-1

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

DCPW-1

Lab Name: Laucks Testing Laboratory Contract: ______

Lab Code: ______ Case No.: ______ SAS No.: ______ SDG No.: OP11X

Matrix: (soil/water) WATER Lab Sample ID: 9607483-01

Sample wt/vol: 1000 (g/ml) ML Lab File ID: LU072404.D

Level: (low/med) LOW Date Received: 07/15/96

% Moisture: ______ decanted:(Y/N) N Date Extracted: 07/16/96

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 07/24/96

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	UG/L	Q
86-73-7	Fluorene	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
84-66-2	Diethylphthalate	10	U
100-01-6	4-Nitroaniline	25	U
534-52-1	4,6-Dinitro-2-methylphenol	25	U
86-30-6	n-Nitrosodiphenylamine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	25	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
86-74-8	Carbazole	10	U
84-74-2	Di-n-butylphthalate	1	J
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo[a]anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	28	B
117-84-0	Di-n-octylphthalate	2	J
205-99-2	Benzo[b]fluoranthene	10	U
207-08-9	Benzo[k]fluoranthene	10	U
50-32-8	Benzo[a]pyrene	10	U
193-39-5	Indeno[1,2,3-cd]pyrene	10	U
53-70-3	Dibenz[a,h]anthracene	10	U
191-24-2	Benzo[g,h,i]perylene	10	U

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.

DCPW-1

Lab Name: Laucks Testing Laboratory   Contract: ____

Lab Code: ____   Case No.: ____   SAS No.: ____   SDG No.: OP11X

Matrix: (soil/water) WATER   Lab Sample ID: 9607483-01

Sample wt/vol: 1000 (g/ml) ML   Lab File ID: LU072404.D

Level: (low/med) LOW   Date Received: 07/15/96

% Moisture: ____ decanted: (Y/N) N   Date Extracted: 07/16/96

Concentrated Extract Volume: 1000 (uL)   Date Analyzed: 07/24/96

Injection Volume: 2.0 (uL)   Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.3

CONCENTRATION UNITS:

Number TICs found: 30   (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	002313-65-7	2-Hexanol, 3-methyl-	8.00	3	JN
2.		unknown alcohol	8.09	5	J B
3.	000629-20-9	1,3,5,7-Cyclooctatetraene	8.61	6	JN
4.	000111-76-2	Ethanol, 2-butoxy-	9.15	4	JN
5.	000110-13-4	2,5-Hexanedione	9.77	5	JN
6.	000100-52-7	Benzaldehyde	10.47	5	JN
7.	020324-32-7	2-Propanol, 1-(2-methoxy-1-meth	11.54	2	JN
8.	013429-07-7	2-Propanol, 1-(2-methoxypropoxy	11.85	2	JN
9.	000098-86-2	Acetophenone	12.95	16	JN
10.		unknown	13.94	4	J
11.	000149-57-5	Hexanoic acid, 2-ethyl-	14.43	4	JN
12.	000768-03-6	2-Propen-1-one, 1-phenyl-	14.86	4	JN
13.		unknown	15.51	6	J
14.	000579-07-7	1,2-Propanedione, 1-phenyl-	16.57	9	JN
15.	000105-60-2	Caprolactam	17.09	2	JN
16.	000120-40-1	Dodecanamide, N,N-bis(2-hydrox	22.20	36	JN
17.	000134-81-6	Ethanedione, diphenyl-	26.41	6	JN
18.	000057-10-3	Hexadecanoic acid	27.67	6	JN
19.		unknown	27.82	5	J
20.	001501-05-9	Benzenepentanoic acid, .delta.-o	28.89	2	JN
21.		unknown	28.95	2	J
22.	000120-46-7	1,3-Propanedione, 1,3-diphenyl-	29.30	17	JN
23.		unknown	29.64	4	J
24.	000630-01-3	Hexacosane	31.60	3	JN
25.		unknown	33.48	4	J
26.	000593-49-7	Heptacosane	34.72	2	JN
27.		unknown	35.06	2	J
28.		unknown	35.33	5	J
29.		unknown	37.16	2	J
30.		unknown	45.67	4	J

FORM I SV-TIC

U.S. EPA - CLP

EPA SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

GDCPW1

Name: LAUCKS TESTING LABS, INC. Contract:

Code: LAUCKS Case No.: SAS No.: SDG No.: OP11X

trix (soil/water): WATER Lab Sample ID: 07483-01

vel (low/med): LOW Date Received: 07/15/96

Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony	7.2		MW	F
7440-38-2	Arsenic	8.0	B	W	F
7440-39-3	Barium	31.8	B		P
7440-41-7	Beryllium	0.30	U		P
7440-43-9	Cadmium	2.0	U		P
7440-70-2	Calcium				
7440-47-3	Chromium	24.3			P
7440-48-4	Cobalt				
7440-50-8	Copper	13.0	B		P
7439-89-6	Iron				
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	5.0	U		P
7440-09-7	Potassium				
7782-49-2	Selenium	5.0	U		F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium				
7440-28-0	Thallium	2.0	U	W	F
7440-62-2	Vanadium				
7440-66-6	Zinc	26.2			P
	Cyanide				

or Before: COLORLESS Clarity Before: CLEAR Texture:

or After: COLORLESS Clarity After: CLEAR Artifacts:

ments:
CLIENT ID: DCPW-1

Organics Analysis Data Sheet

Lab Name: LAUCKS TESTING LABS

Lab Sample ID : 9607483-01
Client ID : DCPW-1

Matrix : WATER
Reporting Units: ug/L

Sample Size : 1.00 ml
Final Ext Vol : 1.0
Percent Moist : 100

Collection Date: 07/11/96
Date Received : 07/15/96
Ext Started : 07/18/96
Ext Completed : 07/18/96
Date Analyzed : 07/18/96
Date Confirmed : 07/18/96
Dil Factor : 1.0

CAS No.	Compound	Result		SDL
------------	Gasoline range	250	U	250

SDL = Sample Detection Limit

Form OADS GC

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 9607483-01
Client Sample ID : DCPW-1
Matrix : WATER
Reporting Units : mg/L

Sample Size(ml) : 400
Final Volume(ml) : 2
Percent Moisture : 100

Collection Date : 7/11/96
Date Recieved : 7/15/96

Date Extracted : 7/16/96
Date Analyzed : 7/20/96
Time Analyzed : 11:03

Dilution Factor : 1

Compound	Result	RL
Diesel	0.39	0.25
Motor Oil	1.0 U	1.0
Surrogate(s)	**% Rec**	**Limits**
2-Fluorobiphenyl	103	50 - 150
p-Terphenyl	115	50 - 150

RL = Reporting limit.

Comment The hydrocarbon pattern does not indicate diesel.

HAZWRAP

HAZARDOUS WASTE REMEDIAL ACTIONS PROGRAM

sent

MAILING ADDRESS:
P.O. BOX 2003, MS-7606
OAK RIDGE, TN 37831-7606

EXPRESS ADDRESS:
TRI-COUNTY MALL
831 TRI-COUNTY BOULEVARD
OLIVER SPRINGS, TN 37840

TO:	FAX #:	VERIFY #:	OFFICE #:
Aimee Reynolds	406-444-1901		

FROM:	FAX #:	VERIFY #:	OFFICE #:
Bill Hedberg	(423) 435-3269	(423) 435-3100	423-435-3572

THIS TRANSMITTAL CONSISTS OF 21 PAGES (EXCLUDING COVER SHEET)

9/26/96

COMMENTS:

Aimee,

A hard copy will follow by regular mail. Please let me know if you forsee a problem.

Bill Hedberg

HAZWRAP

HAZARDOUS WASTE REMEDIAL ACTIONS PROGRAM

sent

MAILING ADDRESS:
P.O. BOX 2003, MS-7606
OAK RIDGE, TN 37831-7606

EXPRESS ADDRESS:
TRI-COUNTY MALL
831 TRI-COUNTY BOULEVARD
OLIVER SPRINGS, TN 37840

TO:	FAX #:	VERIFY #:	OFFICE #:
Dave Dobbs	406-771-0700		

FROM:	FAX #:	VERIFY #:	OFFICE #:
Bill Hedberg	(423) 435-3269	(423) 435-3100	423-435-3572

THIS TRANSMITTAL CONSISTS OF 21 PAGES (EXCLUDING COVER SHEET)

9/26/96

COMMENTS:

Mr Dobbs

Jim Pearce supplied your name as the person to direct this request to. A hard copy will follow by regular mail. Please let me know if you forsee a problem.

Bill Hedberg

DEPARTMENT OF
ENVIRONMENTAL QUALITY
SUPERFUND SECTION

PHONE # (406) 444-1420

FAX # (406) 444-1901

STATE OF MONTANA

OFFICE: 2209 Phoenix Ave
LOCATION: Helena, MT

MAILING PO Box 200901
ADDRESS: Helena, MT 59620-0901

June 5, 1996

Fritz Lebow
Lockheed Martin Energy Systems
PO Box 2003
Oak Ridge, TN 37831-7606

RE: Great Falls International Airport - Investigation-Derived Waste

Dear Mr. Lebow:

I am writing this letter in response to your letter of May 23, 1996. Enclosed are four copies of your letter which appear to have been intended for your cc's and which I inadvertently received. The Montana Department of Environmental Quality (MDEQ) approves of your request to dispose of the contents of drums 1-4, 10-14, 16-18, 22-27, 31-45, 47-59, and 62-65 by spreading them at the area of the base previously designated by Major Johnson. MDEQ also approves of your request to dispose of drums 66, 67, 68, 71, and 72 as solid waste.

If you have any further questions, please feel free to call me.

Sincerely,

Aimee T Reynolds

Aimee T. Reynolds
Environmental Scientist
CECRA Program

Lockheed Martin Energy Systems

Post Office Box 2003 Oak Ridge, Tennessee 37831 - 7606
Telephone: (423) 435-3257 Facsimile: (423) 435-3269

LOCKHEED MARTIN

May 23, 1996

Ms. Aimee T. Reynolds
State of Montana
Department of Environmental Quality
Superfund Section
P.O. Box 200901
Helena, Montana 59620-0901

Dear Ms. Reynolds:

Montana Air National Guard, Great Falls, Montana—Disposal of Investigation-Derived Waste

Per our meeting on Monday, May 13, 1996, at the Montana Air National Guard Base, Great Falls, I have enclosed a marked copy of the drum inventory list (May 21, 1996) of investigation-derived waste (see Enclosure 1). The drums marked with an asterisk contain rock cuttings and water generated during the drilling of bedrock groundwater monitoring wells. As a follow-up to your verbal approval during our meeting, we are requesting your written confirmation to dispose of the contents of these drums by spreading them at the area of the base previously designated by Major Iver Johnson. These drums are itemized as follows: drums 1–4, 10–14, 16–18, 22–27, 31–45, 47–59, and 62–65.

The only analytical data available from the rock cuttings are from samples taken at the 20-ft interval on the wells where surface casings were set. The purpose for setting the surface casings at these specific locations was to rule out the potential for any vertical cross contamination. These laboratory data (see Enclosure 2) indicate that low levels of the common laboratory contaminants methylene chloride, acetone, 2-butanone, and 2-hexanone and very low levels of xylene, toluene, 4-methyl-2-pentanone, and carbon disulfide are present.

As mentioned during our meeting, the marked drums contain the cuttings generated during the air drilling of bedrock sandstones to install the groundwater monitoring wells. Because the Air National Guard Readiness Center's policy is to avoid installing monitoring wells in source areas of contamination, all the wells were installed either upgradient or downgradient from any potential area of soil/bedrock contamination as previously defined during the Site Investigation. The water contained in some of the marked drums is potable water from the base that was added to clean up the walls of the drill holes to enable better recharge of the wells; this water (about 35 gal/hole) was recovered and drummed.

In addition to the drums marked with an asterisk, we are also requesting your approval to dispose of drums 66, 67, 68, 71, and 72 through the existing waste disposal mechanism at the base. These drums contain solid waste such as personal protective equipment, clothing, waste bailers, gloves, and rope.

Disposition of the contents of the remaining drums, which contain cuttings from soil borings, the containerized water from monitoring wells development and purging operations, and wastes generated during decontamination operations, will depend upon the results of ongoing and planned fixed-base laboratory analyses.

Thank you for your assistance in this matter. Bill Hedberg and I certainly enjoyed meeting with you, and we look forward to working with you and other state officials in the future.

Sincerely,

Fat Lebow

F. E. Lebow, Project Manager
Hazardous Waste Remedial Actions Program

FEL:bnb

Enclosures

c: D. Bunn (OpTech)
G. F. Delong
M. Frey (ANGRC)
W. H. Hedberg
I. Johnson (Montana ANG)
T. Neuman (Montana ANG)
File—RC

Drum Inventory (5/21/96) at Montana Air National Guard
Great Falls, Montana
Remedial Investigation Field Activity

Drum No.	Soil Boring/MW Location	Drum Content	Date
1*	8-MW3	Soil cutting (0-20')	5/2/96
2*	8-MW3	Soil cutting (20-40')	5/2/96
3*	8-MW3	Soil cutting (40-65')	5/2/96
4*	8-MW3	Soil cutting + water	5/2/96
5	8-SB7	Soil cutting	4/25/96
6	8-SB6	Soil cutting	4/25/96
7	1-8-SB8	Soil cutting	4/25/96
8	8-SB9	Soil cutting	4/30/96
9	8-SB10	Soil cutting	4/30/96
10*	6-MW3	Cutting + water(25-41')	4/30/96
11*	6-MW3	Soil cutting (20-25')	4/30/96
12*	6-MW3	Cutting + water	4/30/96
13*	6-MW3	Cutting + water(56-65')	4/30/96
14*	6-MW3	Soil cutting(41-56')	4/30/96
15	6-SB16	Soil cutting	4/30/96
16*	6-MW2	Soil cutting(20-28')	4/30/96
17*	6-MW2	Soil cutting(0-20')	4/29/96
18*	6-MW2	Soil cutting(28-50')	4/30/96
19	6-SB15	Soil cutting	4/26/96
20	6-SB17	Soil cutting	4/26/96
21	6-SB18	Soil cutting	4/26/96
22*	6-MW2	Soil cutting(0-20')	4/29/96
23*	6-MW3	Soil cutting(0-10')	4/29/96
24*	6-MW3	Soil cutting(10-20')	4/29/96
25*	6-MW2	cutting + water(60-65')	4/30/96
26*	6-MW2	Soil cutting(50-60')	4/30/96
27*	7-MW5	Soil cutting(20-35')	4/29/96
28	7-SB7	Soil cutting	4/27/96
29	7-SB5	Soil cutting	4/27/96
30	7-SB6	Soil cutting	4/27/96
31*	7-MW2	Soil cutting(0-20')	4/28/96
32*	7-MW5	Soil cutting(0-10')	4/28/96
33*	7-MW5	Soil cutting(10-20').	4/28/96
34*	7-MW4	Soil cutting(0-10')	4/28/96
35*	7-MW4	Soil cutting(10-20')	4/28/96
36*	7-MW4	Soil cutting(40-55')	5/1/96
37*	7-MW2	Soil cutting(0-20')	4/28/96
38*	7-MW5	Soil cutting(55-80')	4/29/96
39*	7-MW5	Soil cutting(80-82')	4/29/96
40*	7-MW5	Soil cutting(35-55')	4/29/96
41*	7-MW4	Soil cutting(55-71')	5/1/96
42*	7-MW4	Cutting + water	5/1/96
43*	7-MW4	Soil cutting(20-40')	5/1/96

Encl 1
(1 of 2)

44*	7-MW3	Soil cutting(0-35')	5/1/96
45*	7-MW3	Soil cutting(35-70')	5/1/96
46	6-DW1	Soil cutting	4/27/96
47*	7-MW2	Soil cutting(20-33')	5/1/96
48*	7-MW2	Soil cutting(47-59')	5/1/96
49*	7-MW2	Soil cutting(59-70')	5/1/96
50*	7-MW2	Soil cutting(33-47')	5/1/96
51*	8-MW4	cutting+water	5/2/96
52*	8-MW4	Soil cutting(0-40')	5/2/96
53*	8-MW4	Soil cutting(40-65')	5/2/96
54*	8-MW4	Cutting+water	5/2/96
55*	8-MW2	Soil cutting(0-30')	5/2/96
56*	8-MW2	Soil cutting(30-40')	5/2/96
57*	8-MW2	Soil cutting(40-65')	5/2/96
58*	8-MW2	cutting+water	5/2/96
59*	8-MW4	cutting+water	5/8/96
60	NA	Mud/decon pad	5/9/96
61	NA	Mud/decon pad	5/9/96
62*	1-MW2	Soil cutting(0-48')	5/1/96
63*	1-MW2	Soil cutting(48-68')	5/1/96
64*	1-MW2	Soil cutting(68-70')	5/1/96
65*	1-MW2	Cutting+water	5/1/96
66	NA	Solid waste	4/23/96
67	NA	Solid waste	4/28/96
68	NA	Solid waste	5/10/96
69	7-DW1	Soil cutting	4/27/96
70	NA	Mud from decon. pad	5/9/96
71	NA	PPE	5/16/96
72	NA	PPE	5/16/96
73	NA	Empty	5/16/96
74	NA	Empty	5/18/96

Signed
Michael M. Ghazizadeh, Ph.D., CPG
Operational Technologies Corporation
MANG Site Manager

cc: David Bunn, OpTech
Fritz Lebow, HAZWRAP MANG Proj. Manager.
Proj. File(RC)-1083

Encl 1
(2 of 2)

Laucks Testing Laboratories, Inc.

940 South Harney St.
Seattle, WA 98108
(206) 767-5060 FAX (206) 767-5063

FAX Cover Sheet

To:	Paula Watts	FAX Number:	423-483-2800
Company:	Optech	Date:	
From:	Kathy Kreps	No. of Pages (including cover page):	7

Following are facsimile sample results for the following:

Laucks Sample #	OPTECH Sample #	
9605104-01	6-MW2-20	(Check here ☑ if VOCs only)
9605104-02	6-MW3-205	(Check here ☑ if VOCs only)
" -03	7-MW2-20.5	(Check here ☑ if VOCs only)
" -04	7-MW4-20.5	(Check here ☐ if VOCs only)
" -05	7-MW5-20.5	(Check here ☑ if VOCs only)
		(Check here ☐ if VOCs only)
		(Check here ☐ if VOCs only)

Sample 9605104-02 yielded low internal standard area due to possible matrix interference. Re-analysis will be performed.

RES_FX.DOC

Encl 2

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

VBLK591

Lab Name: LAUCKS TESTING LABS   Contract:

Lab Code: LAUCKS   Case No.:   SAS No.:   SDG No.: OP01X

Matrix: (soil/water) SOIL   Lab Sample ID: B0506MVOSF1

Sample wt/vol: 5.00 (g/mL) G   Lab File ID: F0506007.D

Level: (low/med) LOW   Date Received:

% Moisture: not dec.   Date Analyzed: 05/06/96

GC Column: DB-624   ID: 0.53(mm)   Dilution Factor: 1.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	J
67-64-1	Acetone	2	J
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

6-MW2-20

Lab Name: LAUCKS TESTING LABS   Contract:

Lab Code: LAUCKS   Case No.:   SAS No.:   SDG No.: OPO4X

Matrix: (soil/water) SOIL   Lab Sample ID: 9605104-01

Sample wt/vol: 5.00 (g/mL) G   Lab File ID: F0506009.D

Level: (low/med) LOW   Date Received: 05/04/96

% Moisture: not dec.   Date Analyzed: 05/06/96

GC Column: DB-624   ID: 0.53(mm)   Dilution Factor: 1.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	JB
67-64-1	Acetone	11	B
75-15-0	Carbon Disulfide	1	J
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	2	J
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

6-MW3-20.5

Lab Name: LAUCKS TESTING LABS   Contract:

Lab Code: LAUCKS   Case No.:   SAS No.:   SDG No.: 0P04X

Matrix: (soil/water) SOIL   Lab Sample ID: 9605104-02

Sample wt/vol: 5.00 (g/mL) G   Lab File ID: F0506010.D

Level: (low/med) LOW   Date Received: 05/04/96

% Moisture: not dec.   Date Analyzed: 05/06/96

GC Column: DB-624   ID: 0.53(mm)   Dilution Factor: 1.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	JB
67-64-1	Acetone	19	B
75-15-0	Carbon Disulfide	1	J
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	1	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

7-MW2-20.5

Lab Name: LAUCKS TESTING LABS Contract:

Lab Code: LAUCKS Case No.: SAS No.: SDG No.: OP04X

Matrix: (soil/water) SOIL Lab Sample ID: 9605104-03

Sample wt/vol: 5.00 (g/mL) G Lab File ID: F0506011.D

Level: (low/med) LOW Date Received: 05/04/96

% Moisture: not dec. Date Analyzed: 05/06/96

GC Column: DB-624 ID: 0.53(mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	JB
67-64-1	Acetone	17	B
75-15-0	Carbon Disulfide	1	J
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	1	J
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	1	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	1	J

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

7-MW4-20.5

Lab Name: LAUCKS TESTING LABS   Contract:

Lab Code: LAUCKS   Case No.:   SAS No.:   SDG No.: OP04X

Matrix: (soil/water) SOIL   Lab Sample ID: 9605104-04

Sample wt/vol: 5.00 (g/mL) G   Lab File ID: F0506012.D

Level: (low/med) LOW   Date Received: 05/04/96

% Moisture: not dec.   Date Analyzed: 05/06/96

GC Column: DB-624   ID: 0.53(mm)   Dilution Factor: 1.0

Soil Extract Volume: (uL)   Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	JB
67-64-1	Acetone	68	B
75-15-0	Carbon Disulfide	1	J
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	49	
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	6	J
591-78-6	2-Hexanone	14	
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	1	J
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

SAMPLE NO.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

7-MW5-20.5

Lab Name: LAUCKS TESTING LABS Contract:

Lab Code: LAUCKS Case No.: SAS No.: SDG No.: DP04X

Matrix: (soil/water) SOIL Lab Sample ID: 9605104-05

Sample wt/vol: 5.00 (g/mL) G Lab File ID: F0506013.D

Level: (low/med) LOW Date Received: 05/04/96

% Moisture: not dec. Date Analyzed: 05/06/96

GC Column: DB-624 ID: 0.53(mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	JB
67-64-1	Acetone	20	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	2	J
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	1	J

APPENDIX K

JP4/JP8 CHROMATOGRAMS

Laucks Testing Laboratories, Inc.

Great Falls

Free Prelim report

940 South Harney St.
Seattle, WA 98108
(206) 767-5060 FAX (206) 767-5063

FAX Cover Sheet

To: Paula Watts
Company: Optech
From: Kathy Kreps

FAX Number: 423-483-2800
Date: 28 May 96
No. of Pages (including cover page): 6

Following are facsimile sample results for the following:
JP4 / JP8

Laucks Sample #	OPTECH Sample #	
		(Check here ☐ if VOCs only)
9605399-01	7-MW1-FP	(Check here ☐ if VOCs only)
		(Check here ☐ if VOCs only)
		(Check here ☐ if VOCs only)
		(Check here ☐ if VOCs only)
		(Check here ☐ if VOCs only)
		(Check here ☐ if VOCs only)

+ chromatograms of the sample, JP4 standard & JP8 standard.

RES_FX.DOC

REPORT ON SAMPLE: 9605399-01A
Client Sample ID: 7-MW1-FP

Collection Date	: 05/13/96	Test Code	: ~~JP8W~~ JP4W. AEK 052896
Date Received	: 05/14/96	Test Method	: M8015
Date Analyzed	: N/A	Extraction Method	: SW 3510
Prep Date	:		

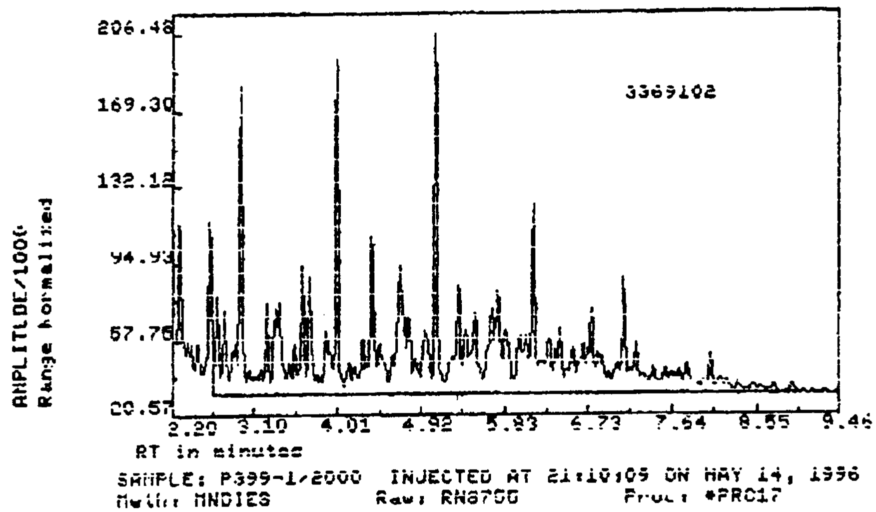
Analyte	Result (mg/L)	PQL (mg/L)
JP-~~8~~4 AEK 052896	970000 D	100000

Surrogate recovery report for sample 9605399-01A

Surrogate	Percent Recovery	Limits: Min.	Max.
2-Fluorobiphenyl	0 *	50	150

* = Indicates that recovery is outside control limits

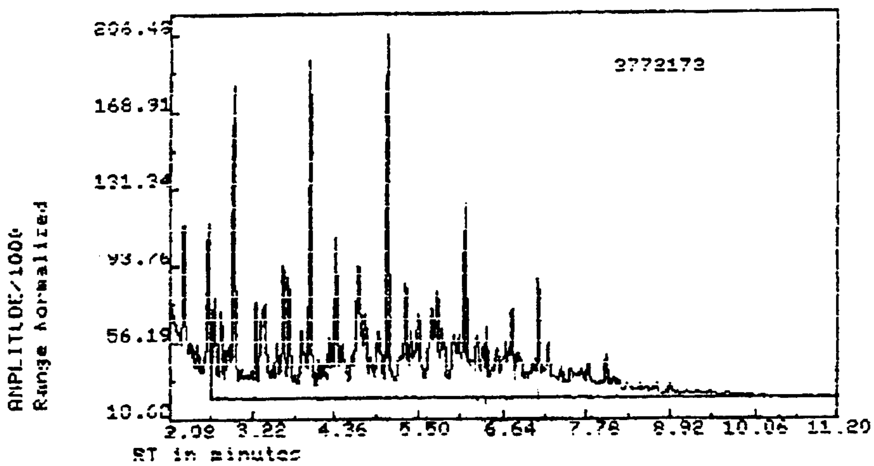
Comments: This sample has a JP4 pattern. Surrogate recovery could not be calculated due to dilution. Preliminary.



Sample
JP4 Range

SAMPLE # 7-MW1-FP
9605399-Ø1

(JP 4 Range)

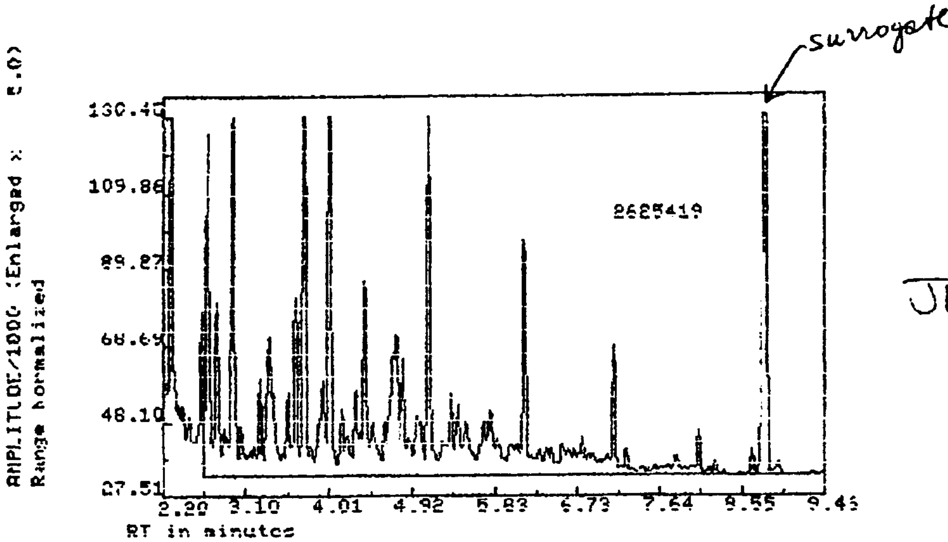


SAMPLE: P399-1/2000 INJECTED AT 21:10:09 ON MAY 14, 1996
Meth: MNDIES Raw: RN87Q5 Proc: #PRC17

Sample JP8 range

SAMPLE # 7-MW1-FP
9605399-01

(JP8 RANGE)

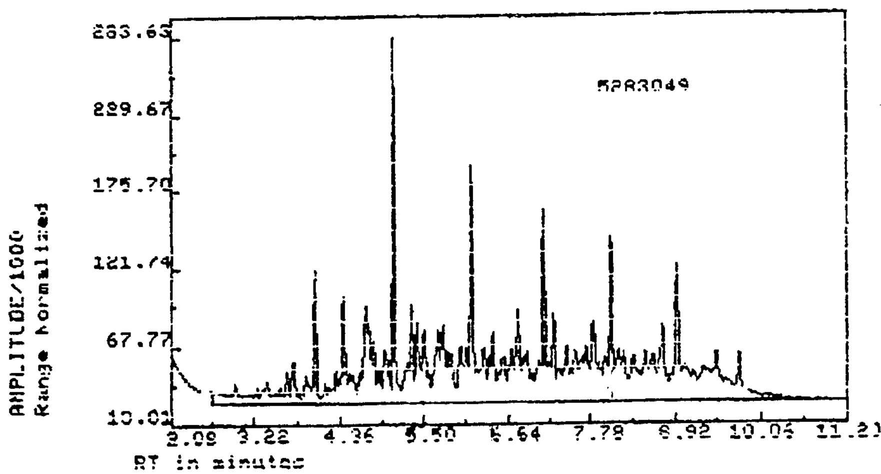


SAMPLE: J250HA4362 INJECTED AT 12:52:37 ON MAY 17, 1996
Meth: MNDIES Raw: RN8760 Proc: #PRC17

JP4 Standard

JP4 STANDARD

(JP4 RANGE)



SAMPLE: JP8 500 INJECTED AT 18:59:54 ON MAY 14, 1996
Meth: MNDIES Raw: RN$752 Proc: #PRC17

JP8 standard.

JP8 STANDARD

(JP8 RANGE)

APPENDIX L

FEDERAL DRINKING WATER STANDARDS

And

MONTANA NUMERIC WATER QUALITY STANDARDS

DRINKING WATER REGULATIONS AND HEALTH ADVISORIES

by

Office of Water
U.S. Environmental Protection Agency
Washington, D.C.

February 1996

Recycled/Recyclable
Printed on paper that contains at least 50% recycled fiber.

These regulations and health advisory tables are revised every 6 months by EPA's Office of Water. Although no permanent mailing list is kept, copies may be ordered free of charge from the:

SAFE DRINKING WATER HOTLINE
1-800-426-4791
Monday thru Friday, 9:00 AM to 5:30 PM EST.

Copies of the supportive technical documentation for the health advisories can be obtained for a fee from the:

Educational Resource Information Center (ERIC)
1929 Kenny Road
Columbus, OH 43210-1080
Telephone number (614) 292-6717
FAX (614) 292-0263
e-mail ERICSE@osu.edu
Payment by Purchase Order/check/Visa or Mastercard.

The Health Advisories available and their ERIC order numbers are ~~included at~~ the end of this publication. For further information regarding the Drinking Water Regulations ~~and~~ Health Advisories, call Barbara Corcoran in EPA's Office of Water at (202) 260-1332.

LEGEND

Abbreviations column descriptions are:

MCLG - Maximum Contaminant Level Goal. A non-enforceable concentration of a drinking water contaminant that is protective of adverse human health effects and allows an adequate margin of safety.

MCL - Maximum Contaminant Level. Maximum permissible level of a contaminant in water which is delivered to any user of a public water system.

RfD - Reference Dose. An estimate of a daily exposure to the human population that is likely to be without appreciable risk of deleterious effects over a lifetime.

DWEL - Drinking Water Equivalent Level. A lifetime exposure concentration protective of adverse, non-cancer health effects, that assumes all of the exposure to a contaminant is from a drinking water source.

(*) The codes for the **Status Reg** and **Status HA** columns are as follows:

F - final
D - draft
L - listed for regulation
P - proposed
T - tentative *(not officially proposed)*

Other codes found in the table include the following:

NA - not applicable
PS - performance standard 0.5 NTU - 1.0 NTU
TT - treatment technique

** - No more than 5% of the samples per month may be positive. For systems collecting fewer than 40 samples/month, no more than 1 sample per month may be positive.

*** - guidance

- Large discrepancies between Lifetime and Longer-term HA values may occur because of the Agency's conservative policies, especially with regard to carcinogenicity, relative source contribution, and less-than-lifetime exposures in chronic toxicity testing. These factors can result in a cumulative UF (uncertainty factor) of up to 5 to 5000 when calculating a Lifetime HA.

The scheme for categorizing chemicals according to their carcinogenic potential is as follows: *

Group A: Human carcinogen

Sufficient evidence in epidemiologic studies to support causal association between exposure and cancer

Group B: Probable human carcinogen

Limited evidence in epidemiologic studies (Group B1) *and/or* sufficient evidence from animal studies (Group B2)

Group C: Possible human carcinogen

Limited evidence from animal studies and inadequate or no data in humans

Group D: Not classifiable

Inadequate or no human and animal evidence of carcinogenicity

Group E: No evidence of carcinogenicity for humans

No evidence of carcinogenicity in at least two adequate animal tests in different species *or* in adequate epidemiologic and animal studies

Drinking Water Health Advisories (HAs) are defined as follows:

One-day HA

The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to 5 consecutive days of exposure, with a margin of safety.

Ten-day HA

The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects up to 14 consecutive days of exposure, with a margin of safety.

Long-term HA

The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects up to approximately 7 years (10% of an individual's lifetime) of exposure, with a margin of safety.

*EPA is in the process of revising the Cancer Guidelines.

Lifetime HA

The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects over a lifetime of exposure, with a margin of safety.

Drinking Water Standards and Health Advisories

Chemicals	Standards			Status HA	Health Advisories								Cancer Group
	Status Reg.	MCLG (mg/l)	MCL (mg/l)		10-kg Child			70-kg Adult					
					One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk	
ORGANICS													
Acenaphthene	-	-	-	-	-	-	-	-	0.06	-	-	-	-
Acifluorfen	T	zero	-	F	2	2	0.1	0.4	0.013	0.4	-	0.1	B2
Acrylamide	F	zero	TT	F	1.5	0.3	0.02	0.07	***0.0002***	0.007	-	0.001	B2
Acrylonitrile	T	zero	-	D	-	-	-	-	-	-	-	0.006	B1*
Adipate (diethylhexyl)	F	0.4	0.4	-	20	20	20	60	0.6	20	0.4	3	C
Alachlor	F	zero	0.002	F	0.1	0.1	-	-	0.01	0.4	-	0.04	B2
Aldicarb**	D	0.007	0.007	D	-	-	-	-	0.001	0.035	0.007	-	D
Aldicarb sulfone**	D	0.007	0.007	D	-	-	-	-	0.001	0.035	0.007	-	D
Aldicarb sulfoxide**	D	0.007	0.007	D	-	-	-	-	0.001	0.035	0.007	-	D
Aldrin	-	-	-	D	0.0003	0.0003	0.0003	0.0003	0.00003	0.001	-	0.0002	B2
Ametryn	-	-	-	F	9	9	0.9	3	0.009	0.3	0.06	-	D
Ammonium sulfamate	-	-	-	F	20	20	20	80	0.25	8	2	-	D
Anthracene (PAH)***	-	-	-	-	-	-	-	-	0.3	-	-	-	D
Atrazine	F	0.003	0.003	F	0.1	0.1	0.05	0.2	0.035	0.2	0.003	-	C
Baygon	-	-	-	F	0.04	0.04	0.04	0.1	0.004	0.1	0.003	-	C
Bentazon	T	0.02	-	F	0.3	0.3	0.3	0.9	0.0025	0.09	0.02	-	D
Benz(a)anthracene (PAH)	-	-	-	-	-	-	-	-	-	-	-	-	B2
Benzene	F	zero	0.005	F	0.2	0.2	-	-	-	-	-	0.1	A
Benzo(a)pyrene (PAH)	F	zero	0.002	-	-	-	-	-	-	-	-	0.0002*	B2*
Benzo(b)fluoranthene (PAH)	-	-	-	-	-	-	-	-	-	-	-	-	B2
Benzo(g,h,i)perylene (PAH)	-	-	-	-	-	-	-	-	-	-	-	-	D
Benzo(k)fluoranthene (PAH)	-	-	-	-	-	-	-	-	-	-	-	-	B2
bis-2-Chloroisopropyl ether	-	-	-	F	4	4	4	13	0.04	1	0.3	-	D
Bromacil	L	-	-	F	5	5	3	9	0.13	5	0.09	-	C
Bromobenzene	L	-	-	D	-	-	-	-	-	-	-	-	-

* Under review.

**NOTE: The HA value or the MCLG/MCL value for any two or more of these three chemicals should remain at 0.007 mg/L because of similar mode of action.

***PAH = Polyaromatic hydrocarbon

*See 40CFR Parts 141 and 142

NOTE: Anthracene and Benzo(g,h,i)perylene — not proposed in Phase V.

NOTE: Changes from the last version are noted in Italic and Bold Face print.

Drinking Water Standards and Health Advisories

Chemicals	Standards: Status Reg.	Standards: MCLG (mg/l)	Standards: MCL (mg/l)	Status HA	Health Advisories: 10-kg Child: One-day (mg/l)	10-kg Child: Ten-day (mg/l)	10-kg Child: Longer-term (mg/l)	70-kg Adult: Longer-term (mg/l)	70-kg Adult: RfD (mg/kg/day)	70-kg Adult: DWEL (mg/l)	70-kg Adult: Lifetime (mg/l)	70-kg Adult: mg/l at 10^{-4} Cancer Risk	Cancer Group
Bromochloroacetonitrile	T	-	-	D	-	-	-	-	-	-	-	-	-
Bromochloromethane	-	-	-	F	0.1	0.1	0.1	0.6	0.013	[illegible]	0.09	-	-
Bromodichloromethane (THM)	P	zero	0.1*/0.08*	D	6	6	4	13	0.02	0.7	-	0.06	B2
Bromoform (THM)	P	zero	0.1*/0.08*	D	5	2	2	6	0.02	0.7	[illegible]	0.4	B2
Bromomethane	T	-	-	F	0.1	0.1	0.1	0.5	0.001	0.04	0.01	-	D
Butyl benzyl phthalate (PAE)***	-	-	-	-	-	-	-	-	0.2	7	-	-	C
Butylate	-	-	-	F	2	2	1	4	0.05	2	0.35	-	D
Butylbenzene n-	-	-	-	D	-	-	-	-	-	-	-	-	-
Butylbenzene sec-	-	-	-	D	-	-	-	-	-	-	-	-	-
Butylbenzene tert-	-	-	-	D	-	-	-	-	-	-	-	-	-
Carbaryl	-	-	-	F	1	1	1	1	0.1	4	0.7	-	D
Carbofuran	P	0.04	0.04	F	0.05	0.05	0.05	0.2	0.005	0.2	0.04	-	E
Carbon tetrachloride	F	zero	0.005	F	4	0.2	0.07	0.3	0.0007	0.03	-	0.03	B2
Carboxin	-	-	-	F	1	1	1	4	0.1	4	0.7	-	D
Chloral hydrate	P	0.04	0.06**	D	7	0.2	0.2	0.6	0.0002	0.06	0.06	-	C
Chloramben	-	-	-	F	3	3	0.2	0.5	0.015	0.5	0.1	-	D
Chlordane	F	zero	0.002	F	0.06	0.06	-	-	0.00006	0.002	-	0.003	B2
Chlorodibromomethane (THM)	P	0.06	0.1*/0.08*	D	6	6	2	8	0.02	0.7	0.06	-	C
Chloroethane	L	-	-	D	-	-	-	-	-	-	-	-	B
Chloroform (THM)	P	zero	0.1*/0.08*	D	4	4	0.1	0.4	0.01	0.4	-	0.6	B2
Chloromethane	L	-	-	F	9	0.4	0.4	1	0.004	0.1	0.003	-	C
Chlorophenol (2-)	-	-	-	D	0.5	0.5	0.5	2.0	0.005	0.2	0.04	-	D
p-Chlorophenyl methyl sulfide/sulfone/sulfoxide	-	-	-	**	-	-	-	-	-	-	-	-	D
Chloropicrin	L	-	-	-	-	-	-	-	-	-	-	-	-
Chlorothalonil	-	-	-	F	0.2	0.2	0.2	0.5	0.015	0.5	-	0.15	B2
Chlorotoluene o-	L	-	-	F	2	2	2	7	0.02	0.7	0.1	-	D
Chlorotoluene p-	L	-	-	F	2	2	2	7	0.02	0.7	0.1	-	D
Chlorpyrifos	-	-	-	F	0.03	0.03	0.03	0.1	0.003	0.1	0.02	-	D
Chrysene (PAH)	-	-	-	-	-	-	-	-	-	-	-	-***	B2
Cyanazine****	T	0.001	-	D	0.1	0.1	0.02	0.07	0.002	0.07	0.001	-	C

* Current MCL **A HA will not be developed due to insufficient data; a "Database Deficiency Report has been published.
* 1994 Proposed rule for Disinfectants and Disinfection By-products : Total for all THMs combined cannot exceed the 0.08 level.
**Total for all haloacetic acids cannot exceed 0.06 level. ***PAE = phthalate acid ester *****Draft HA updated for the Phase VIB regulation, which has been postponed. It includes the change of the cancer classification from D to C, thus justifying the use of an additional 10-fold safty factor for the lifetime HA.*

Drinking Water Standards and Health Advisories

Chemicals	Standards			Status HA	Health Advisories								Cancer Group
					10-kg Child			70-kg Adult					
	Status Reg.	MCLG (mg/l)	MCL (mg/l)		One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk	
Cyanogen chloride	T	-	-	-	-	-	-	-	-	-	-	-	-
Cymene p-	-	-	-	D	-	-	-	-	-	-	-	-	-
2,4-D	F	0.07	0.07	F	1	0.3	0.1	0.4	0.01	0.4	0.07	-	D
DCPA (Dacthal)	L	-	-	F	80	80	5	20	0.5	20	4	-	D
Dalapon	F	0.2	0.2	F	3	3	0.3	0.9	0.026	0.9	0.2	-	D
Di(2-ethylhexyl)adipate	F	0.4	0.4	-	20	20	20	60	0.6	20	0.4	3	C
Diazinon	-	-	-	F	0.02	0.02	0.005	0.02	0.00009	0.003	0.0006	-	E
Dibromoacetonitrile	L	-	-	D	2	2	2	8	0.02	0.8	0.02	-	C
Dibromochloropropane (DBCP)	F	zero	0.0002	F	0.2	0.05	-	-	-	-	-	0.003	B2
Dibromomethane	L	-	-	-	-	-	-	-	-	-	-	-	D
Dibutyl phthalate (PAE)	-	-	-	-	-	-	-	-	0.1	4	-	-	D
Dicamba	L	-	-	F	0.3	0.3	0.3	1	0.03	1	0.2	-	D
Dichloroacetaldehyde	L	-	-	D	-	-	-	-	-	-	-	-	-
Dichloroacetic acid	P	zero	0.06**	D	1	1	1	4	0.004	0.1	-	-	B2
Dichloroacetonitrile	L	-	-	D	1	1	0.8	3	0.008	0.3	0.006	-	C**
Dichlorobenzene o-	F	0.6	0.6	F	9	9	9	30	0.09	3	0.6	-	D
Dichlorobenzene m- *	-	-	-	F	9	9	9	30	0.09	3	0.6	-	D
Dichlorobenzene p-	F	0.075	0.075	F	10	10	10	40	0.1	4	0.075	-	C
Dichlorodifluoromethane	L	-	-	F	40	40	9	30	0.2	5	1	-	D
Dichloroethane (1,2-)	F	zero	0.005	F	0.7	0.7	0.7	2.6	-	-	-	0.04	B2
Dichloroethylene (1,1-)	F	0.007	0.007	F	2	1	1	4	0.009	0.4	0.007	-	C
Dichloroethylene (cis-1,2-)	F	0.07	0.07	F	4	3	3	11	0.01	0.4	0.07	-	D
Dichloroethylene (trans-1,2-)	F	0.1	0.1	F	20	2	2	6	0.02	0.6	0.1	-	D
Dichloromethane	F	zero	0.005	F	10	2	-	-	0.06	2	-	0.5	B2
Dichlorophenol (2,4-)	-	-	-	D	0.03	0.03	0.03	0.1	0.003	0.1	0.02	-	D
Dichloropropane (1,1-)	-	-	-	D	-	-	-	-	-	-	-	-	-
Dichloropropane (1,2-)	F	zero	0.005	F	-	0.09	-	-	-	-	-	0.06	B2
Dichloropropane (1,3-)	L	-	-	D	-	-	-	-	-	-	-	-	-

* The values for m-dichlorobenzene are based on data for o-dichlorobenzene.

** A quantitative risk estimate has not been determined.

** Total for all haloacetic acids cannot exceed 0.06 level.

Chemicals	Standards			Status HA	Health Advisories								Cancer Group
					10-kg Child			70-kg Adult					
	Status Reg.	MCLG (mg/l)	MCL (mg/l)		One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk	
Dichloropropane (2,2-)	L	-	-	D	-	-	-	-	-	-	-	-	-
Dichloropropene (1,1-)	L	-	-	D	-	-	-	-	-	-	-	-	[illegible]
Dichloropropene (1,3-)	T	zero	-	F	0.03	0.03	0.03	0.09	0.0003	0.01	-	0.02	B2
Dieldrin	-	-	-	F	0.0005	0.0005	0.0005	0.002	0.00005	0.002	[illegible]	0.0002	B2
Diethyl phthalate (PAE)	-	-	-	D	-	-	-	-	0.8	30	6	-	D
Diethylene glycol dinitrate	-	-	-	*	-	-	-	-	-	-	-	-	-
Di(2-ethylhexyl)phthalate (PAE)	F	zero	0.006	D	-	-	-	-	0.02	0.7	-	0.3	B2
Diisopropyl methylphosphonate	-	-	-	F	8	8	8	30	0.08	3	0.6	-	D
Dimethrin	-	-	-	F	10	10	10	40	0.3	10	2	-	D
Dimethyl methylphosphonate	-	-	-	F	2	2	2	6	0.2	7	0.1	0.7	C
Dimethyl phthalate (PAE)	-	-	-	-	-	-	-	-	-	-	-	-	D
1,3-Dinitrobenzene	-	-	-	F	0.04	0.04	0.04	0.14	0.0001	0.005	0.001	-	D
Dinitrotoluene (2,4-)	L	-	-	F	0.50	0.50	0.30	1	0.002	0.1	-	0.005	B2 *
Dinitrotoluene (2,6-)	L	-	-	F	0.40	0.40	0.40	1	0.001	0.04	[illegible]	0.005	B2
tg 2,6 & 2,4 dinitrotoluene **	-	-	-	-	-	-	-	-	-	-	-	0.005	B2
Dinoseb	F	0.007	0.007	F	0.3	0.3	0.01	0.04	0.001	0.04	0.007	-	D
Dioxane p-	-	-	-	F	4	0.4	-	-	-	-	-	0.7	B2
Diphenamid	-	-	-	F	0.3	0.3	0.3	1	0.03	1	0.2	-	D
Diphenylamine	-	-	-	F	1	1	0.3	1	0.03	1	0.2	-	D
Diquat	F	0.02	0.02	-	-	-	-	-	0.0022	0.08	0.02	-	D
Disulfoton	-	-	-	F	0.01	0.01	0.003	0.009	0.00004	0.001	0.0003	-	E
Dithiane (1,4-)	-	-	-	F	0.4	0.4	0.4	1	0.01	0.4	0.08	-	D
Diuron	-	-	-	F	1	1	0.3	0.9	0.002	0.07	0.01	-	D
Endothall	F	0.1	0.1	F	0.8	0.8	0.2	0.2	0.02	0.7	0.1	-	D
Endrin	F	0.002	0.002	F	0.02	0.02	0.003	0.01	0.0003	0.01	0.002	-	D
Epichlorohydrin	F	zero	TT	F	0.1	0.1	0.07	0.07	0.002	0.07	[illegible]	0.4	B2
Ethylbenzene	F	0.7	0.7	F	30	3	1	3	0.1	3	0.7	-	D
Ethylene dibromide (EDB)	F	zero	0.00005	F	0.008	0.008	-	-	-	-	[illegible]	0.00004	B2
Ethylene glycol	-	-	-	F	20	6	6	20	2	40	7	-	D
ETU	L	-	-	F	0.3	0.3	0.1	0.4	0.00008	0.003	[illegible]	0.03	B2
Fenamiphos	-	-	-	F	0.009	0.009	0.005	0.02	0.00025	0.009	0.002	-	D

* An HA will not be developed due to insufficient data; a "Database Deficiency Report" has been published.
** tg = technical grade

Chemicals	Standards			Health Advisories										Cancer Group
					10-kg Child			70-kg Adult						
	Status Reg.	MCLG (mg/l)	MCL (mg/l)	Status HA	One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk		
Fluometron	-	-	-	F	2	2	2	8	0.013	0.4	0.09	-		D
Fluorene (PAH)	-	-	-	-	-	-	-	-	0.04	-	-	-		D
Fluorotrichloromethane	L	-	-	F	7	7	3	10	0.3	10	2	-		D
Fog Oil	-	-	-	D	-	-	-	-	-	-	-	-		-
Fonofos	-	-	-	F	0.02	0.02	0.02	0.07	0.002	0.07	0.01	-		D
Formaldehyde	D	-	-	D	10	5	5	20	0.15	5	1	-		B1**
Gasoline, unleaded (benzene)	-	-	-	D	-	-	-	-	-	-	0.005	-		-
Glyphosate	F	0.7	0.7	F	20	20	1	1	0.1	4	0.7	-		E
Heptachlor	F	zero	0.0004	F	0.01	0.01	0.005	0.005	0.0005	0.02	-	0.0008		B2
Heptachlor epoxide	F	zero	0.0002	F	0.01	-	0.0001	0.0001	1E-5	0.0004	-	0.0004		B2
Hexachlorobenzene	F	zero	0.001	F	0.05	0.05	0.05	0.2	0.0008	0.03	-	0.002		B2
Hexachlorobutadiene	T	0.001	-	F	0.3	0.3	0.1	0.4	0.002	0.07	0.001	-		C
Hexachlorocyclopentadiene	F	0.05	0.05	-	-	-	-	4	0.007	0.2	[illegible]	-		D
Hexachloroethane	L	-	-	F	5	5	0.1	0.5	0.001	0.04	0.001	-		C
Hexane (n-)	-	-	-	F	10	4	4	10	-	-	[illegible]	-		D
Hexazinone	-	-	-	F	3	3	3	9	0.033*	1*	0.2*	-		D
HMX	-	-	-	F	5	5	5	20	0.05	2	0.4	-		D
Indeno(1,2,3,-c,d)pyrene (PAH)	-	-	-	D	-	-	-	-	-	-	-	-***		B2
Isophorone	L	-	-	F	15	15	15	15	0.2	7	0.1	4		C
Isopropyl methylphosphonate	-	-	-	D	30	30	30	100	0.1	4.0	0.7	-		D
Isopropylbenzene	-	-	-	D	-	-	-	-	-	-	-	-		-
Lindane	F	0.0002	0.0002	F	1	1	0.03	0.1	0.0003	0.01	0.0002	-		C
Malathion	-	-	-	F	0.2	0.2	0.2	0.8	0.02	0.8	0.2	-		D
Maleic hydrazide*	-	-	-	F	10	10	5	20	0.5	20	4	-		D
MCPA	-	-	-	F	0.1	0.1	0.1	0.4	0.0015	0.05	[illegible]	-		E
Methomyl	L	-	-	F	0.3	0.3	0.3	0.3	0.025	0.9	0.2	-		D
Methoxychlor	F	0.04	0.04	F	0.05	0.05	0.05	0.2	0.005	0.2	0.04	-		D
Methyl ethyl ketone	-	-	-	F	-	-	-	-	-	-	-	-		*
Methyl parathion	-	-	-	F	0.3	0.3	0.03	0.1	0.00025	0.009	0.002	-		D

* Under review.

** Carcinogenicity based on inhalation exposure.

***See 40CFR Parts 141 and 142

Drinking Water Standards and Health Advisories

Chemicals	Standards			Status HA	Health Advisories									Cancer Group
					10-kg Child			70-kg Adult						
	Status Reg.	MCLG (mg/l)	MCL (mg/l)		One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk		
Methyl tert butyl ether	L	-	-	D	24	24	3	12	0.03	1.0	0.02-0.2*			C***
Metolachlor	L	-	-	F	2	2	2	5.0	0.1	5.0	[illegible]	-		C
Metribuzin	L	-	-	F	5	5	0.3	0.5	0.013**	0.5	0.1	-		D
Monochloroacetic acid	L	-	-	D	-	-	-	-	-	-	-	-		-
Monochlorobenzene	F	0.1	0.1	F	2	2	2	7	0.02	0.7	0.1	-		D
Naphthalene	-	-	-	F	0.5	0.5	0.4	1	0.004	0.1	0.02	-		D
Nitrocellulose (non-toxic)	-	-	-	F	-	-	-	-	-	-	-	-		-
Nitroguanidine	-	-	-	F	10	10	10	40	0.1	4	0.7	-		D
Nitrophenol p-	-	-	-	F	0.8	0.8	0.8	3	0.008	0.3	0.06	-		D
Oxamyl (Vydate)	F	0.2	0.2	F	0.2	0.2	0.2	0.9	0.025	0.9	0.2	-		E
Paraquat	-	-	-	F	0.1	0.1	0.05	0.2	0.0045	0.2	0.03	-		E
Pentachloroethane	-	-	-	D	-	-	-	-	-	[illegible]	[illegible]	[illegible]		[illegible]
Pentachlorophenol	F	zero	0.001	F	1	0.3	0.3	1	0.03	1	-	0.03		B2
Phenanthrene (PAH)	-	-	-	-	-	-	-	-	-	-	[illegible]	[illegible]		[illegible]
Phenol	-	-	-	D	6	6	6	20	0.6	20	4	-		D
Picloram	F	0.5	0.5	F	20	20	0.7	2	0.07	[illegible]	[illegible]	[illegible]		D
Polychlorinated biphenyls (PCBs)	F	zero	0.0005	P	-	-	-	-	-	-	-	0.0005		B2
Prometon	L	-	-	F	0.2	0.2	0.2	0.5	0.015	0.5	0.1	-		D
Pronamide	-	-	-	F	0.8	0.8	0.8	3	0.075	3	0.05	-		C
Propachlor	-	-	-	F	0.5	0.5	0.1	0.5	0.013	0.5	0.09	-		D
Propazine	-	-	-	F	1	1	0.5	2	0.02	0.7	0.01	-		C
Propham	-	-	-	F	5	5	5	20	0.02	0.6	[illegible]	[illegible]		D
Propylbenzene n-	-	-	-	D	-	-	-	-	-	-	-	-		-
Pyrene (PAH)	-	-	-	-	-	-	-	-	0.03	[illegible]	[illegible]	[illegible]		D
RDX	-	-	-	F	0.1	0.1	0.1	0.4	0.003	0.1	0.002	0.03		C
Simazine	F	0.004	0.004	F	0.07	0.07	0.07	0.07	0.005	0.2	0.004	[illegible]		C
Styrene	F	0.1	0.1	F	20	2	2	7	0.2	7	0.1	-		C
2,4,5-T	L	-	-	F	0.8	0.8	0.8	1	0.01	0.35	0.07	[illegible]		D
2,3,7,8-TCDD (Dioxin)	F	zero	3E-08	F	1E-06	1E-07	1E-08	4E-08	1E-09	4E-08	-	2E-08		B2

* Under review. NOTE: Phenanthrene — not proposed.

** The RfD for metribuzin was revised Dec. 1994 to 0.013 mg/kg/day. Based on this revised RfD the Lifetime HA would be 0.1 mg/l assuming a 20% relative source contribution for drinking water. This information has not been incorporated in the Health Advisory document.

*** Tentative.

* If the cancer classification C is accepted, the Lifetime HA is 0.20; other wise it is 0.200 mg/L.

Chemicals	Standards			Status HA	Health Advisories								Cancer Group
					10-kg Child			70-kg Adult					
	Status Reg.	MCLG (mg/l)	MCL (mg/l)		One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk	
Tebuthiuron	-	-	-	F	3	3	0.7	2	0.07	2	0.5	-	D
Terbacil	-	-	-	F	0.3	0.3	0.3	0.9	0.013	0.4	0.09	-	E
Terbufos	-	-	-	F	0.005	0.005	0.001	0.005	0.00013	0.005	0.0009	-	D
Tetrachloroethane (1,1,1,2-)	L	-	-	F	2	2	0.9	3	0.03	1	0.07	0.1	C
Tetrachloroethane (1,1,2,2-)	L	-	-	D	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	F	zero	0.005	F	2	2	1	5	0.01	0.5	-	0.07	-
Tetranitromethane	-	-	-	**	-	-	-	-	-	-	-	-	-
Toluene	F	1	1	F	20	2	2	7	0.2	7	1	-	D
Toxaphene	F	zero	0.003	F	-	-	-	-	0.1*	-	-	0.003	B2
2,4,5-TP	F	0.05	0.05	F	0.2	0.2	0.07	0.3	0.0075	0.3	0.05	-	D
1,1,2-Trichloro-1,2,2-trifluoroethane	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroacetic acid	P	0.3	0.06**	D	4	4	4	13	0.1	4.0	0.3	-	C
Trichloroacetonitrile	L	-	-	D	0.05	0.05	-	-	-	-	-	-	-
Trichlorobenzene (1,2,4-)	F	0.07	0.07	F	0.1	0.1	0.1	0.5	0.001	0.04	0.07	-	D
Trichlorobenzene (1,3,5-)	-	-	-	F	0.6	0.6	0.6	2	0.006	0.2	0.04	-	D
Trichloroethane (1,1,1-)	F	0.2	0.2	F	100	40	40	100	0.035	1	0.2	-	D
Trichloroethane (1,1,2-)	F	0.003	0.005	F	0.6	0.4	0.4	1	0.004	0.1	0.003	-	C
Trichloroethanol (2,2,2-)	L	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	F	zero	0.005	F	-	-	-	-	-	0.3	-	0.3	B2
Trichlorophenol (2,4,6-)	L	-	-	D	-	-	-	-	-	-	-	0.3	B2
Trichloropropane (1,1,1-)	-	-	-	D	-	-	-	-	-	-	-	-	-
Trichloropropane (1,2,3-)	L	-	-	F	0.6	0.6	0.6	2	0.006	0.2	0.04	0.5	B2
Trifluralin	L	-	-	F	0.08	0.08	0.08	0.3	0.0075	0.3	0.005	0.5	C
Trimethylbenzene (1,2,4-)	-	-	-	D	-	-	-	-	-	-	-	-	-
Trimethylbenzene (1,3,5-)	-	-	-	D	-	-	-	-	-	-	-	-	-
Trinitroglycerol	L	-	-	F	0.005	0.005	0.005	0.005	-	-	0.005	-	-
Trinitrotoluene	-	-	-	F	0.02	0.02	0.02	0.02	0.0005	0.02	0.002	0.1	C
Vinyl chloride	F	zero	0.002	F	3	3	0.01	0.05	-	-	-	0.0015	A
Xylenes	F	10	10	F	40	40	40	100	2	60	10	-	D

* Under review.

** A HA will not be developed due to insufficient data; a "Database Deficiency Report" has been published.

** Total for all haloacetic acids cannot exceed 0.06 mg/l level.

Drinking Water Standards and Health Advisories

Chemicals	Standards			Status HA	Health Advisories								Cancer Group
					10-kg Child			70-kg Adult					
	Status Reg.	MCLG (mg/l)	MCL (mg/l)		One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk	
INORGANICS													
Aluminum	L	-	-	D	-	-	-	-	-	-	-	-	-
Ammonia	-	-	-	D	-	-	-	-	-	-	30	-	D
Antimony	F	0.006	0.006	F	0.01	0.01	0.01	0.015	0.0004	0.01	0.003	-	D
Arsenic	*	-	0.05	D	-	-	-	-	-	-	-	0.002	A
Asbestos (fibers/l >10μm length)	F	7 MFL	7 MFL	-	-	-	-	-	-	-	-	700 MFL	A
Barium	F	2	2	F	-	-	-	-	0.07	2	2	-	D
Beryllium	F	0.004	0.004	D	30	30	4	20	0.005	0.2	-	0.0008	B2
Boron	L	-	-	D	4	0.9	0.9	3	0.09	3	[illegible]	[illegible]	D
Bromate	L	zero	0.01	-	-	-	-	-	-	-	-	-	-
Cadmium	F	0.005	0.005	F	0.04	0.04	0.005	0.02	0.0005	0.02	0.005	[illegible]	D
Chloramine	P	4***	4	D	1	1	1	1	0.1	3.3	3/4***	-	-
Chlorate	L	-	-	D	-	-	-	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Chlorine	P	4	4	D	-	-	-	-	0.1	-	-	-	D
Chlorine dioxide	T	0.3	0.8	D	-	-	-	-	0.01	0.35	0.3	-	D
Chlorite	L	0.08	1	D	-	-	-	-	0.003	0.1	0.08	-	D
Chromium (total)	F	0.1	0.1	F	1	1	0.2	0.8	0.005	0.2	0.1	[illegible]	D
Copper (at tap)	F	1.3	TT**	-	-	-	-	-	-	-	-	-	D
Cyanide	F	0.2	0.2	P	0.2	0.2	0.2	0.8	0.022	0.8	0.2	[illegible]	D
Fluoride*	F	4	4	-	-	-	-	-	0.12	-	-	-	-
Hypochlorite	P	4[1]	-	-	-	-	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Hypochlorous acid	P	4[1]	-	-	-	-	-	-	-	-	-	-	-
Lead (at tap)	F	zero	TT**	-	-	-	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	B2
Manganese	L	-	-	D	-	-	-	-	0.14[3]	-	-	-	-
Mercury (inorganic)	F	0.002	0.002	F	-	-	-	0.002	0.0003	0.01	0.002	[illegible]	D
Molybdenum	L	-	-	D	0.02	0.02	0.01	0.05	0.005	0.2	0.04	-	D
Nickel	F	0.1[4]	0.1[4]	F	1	1	0.5	1.7	0.02	0.6	0.1	[illegible]	D
Nitrate (as N)	F	10	10	F	-	10[4]	-	-	1.6	-	-	-	-

* Under review.
** Copper — action level 1.3 mg/L, Lead — action level 0.015 mg/L
*** Measured as free chlorine.
[1] Regulated as chlorine.
[2] In food.
[3] In water.
[4] Being remanded

Drinking Water Standards and Health Advisories

Chemicals	Standards			Status HA	Health Advisories								Cancer Group
					10-kg Child			70-kg Adult					
	Status Reg.	MCLG (mg/l)	MCL (mg/l)		One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10^{-4} Cancer Risk	
Nitrite (as N)	F	1	1	F	-	1*	-	-	0.16*	-	-	-	*
Nitrate + Nitrite (both as N)	F	10	10	F	-	-	-	-	-	-	-	-	*
Selenium	F	0.05	0.05	-	-	-	-	-	0.005	-	-	-	-
Silver	-	-	-	D	0.2	0.2	0.2	0.2	0.005	0.2	0.1	[illegible]	D
Sodium	-	-	-	D	-	-	-	-	-	20**	-	-	-
Strontium	L	-	-	D	25	25	25	90	0.6	90	17	[illegible]	D
Sulfate	P	500	500	D	-	-	-	-	-	-	-	-	-
Thallium	F	0.0005	0.002	F	0.007	0.007	0.007	0.02	0.00007	0.002	0.0004	[illegible]	[illegible]
Vanadium	T	-	-	D	-	-	-	-	-	-	-	-	D
White phosphorous	-	-	-	F	-	-	-	-	0.00002	0.0005	0.0001	[illegible]	D
Zinc	L	-	-	F	6	6	3	10	0.3	10	2	-	D
Zinc chloride (measured as Zinc)	L	-	-	F	6	6	3	10	0.3	10	2	[illegible]	D
RADIONUCLIDES													
Beta particle and photon activity (formerly man-made radionuclides)	F	zero	4 mrem	-	-	-	-	-	-	-	-	4 mrem/y	A
Gross alpha particle activity	F	zero	15 pCi/L	-	-	-	-	-	-	-	-	15 pCi/L	A
Combined Radium 226 & 228	F	zero	5 pCi/L	-	-	-	-	-	-	-	-	20 pCi/L	A
Radon	P	zero	300 pCi/L+	-	-	-	-	-	-	-	-	150 pCi/L	A
Uranium	P	zero	20 µg/L	-	-	-	-	-	0.003	-	-	-	A

* Under review. ** Guidance.

+1991 Proposed National Primary Drinking Water Rule for Radionuclides

Secondary Maximum Contaminant Levels

Chemicals	Status	SMCLs (mg/L)
Aluminum	F	0.05 to 0.2
Chloride	F	250
Color	F	15 color units
Copper	F	1.0
Corrosivity	F	non-corrosive
Fluoride*	F	2.0
Foaming agents	F	0.5
Iron	F	0.3
Manganese	F	0.05
Odor	F	3 threshold odor numbers
pH	F	6.5 — 8.5
Silver	F	0.1
Sulfate	F	250
Total dissolved solids (TDS)	F	500
Zinc	F	5

Status Codes: P — proposed, F — final

* Under review.

Microbiology

	Status	MCLG	MCL
Cryptosporidium	L	-	-
Giardia lamblia	F	zero	TT
Legionella	F#	zero	TT
Standard Plate Count	F#	NA	TT
Total Coliforms	F	zero	**
Turbidity	F	NA	PS
Viruses	F#	zero	TT

Key: PS, TT, F, defined as previously stated.

\# Final for systems using surface water; also being considered for regulation under groundwater disinfection rule.

CIRCULAR WQB-7

MONTANA
NUMERIC WATER QUALITY STANDARDS

Montana Department of Environmental Quality
Water Quality Division ••• Technical Studies & Special Projects Section
1400 Broadway, Room A-206
Post Office Box 200901
Helena, Montana 59620
TELEPHONE: (406) 444-2406 ••• FAX: (406) 444-1374

December, 1995

December, 1995

CIRCULAR WQB-7

CIRCULAR WQB-7, Montana Numerical Water Quality Standards, is a compilation of the most recent Standards available for both Surface Waters and Ground Waters. Reference sources used to compile CIRCULAR WQB-7 are the Environmental Protection Agency (EPA) Region VIII's Clean Water Act Section 304(a) Criteria Chart, dated 07/01/1993, and Standards established as drinking water maximum contaminant levels (MCL's). It is anticipated that CIRCULAR WQB-7 will be added to, modified, and/or updated as additional or new information becomes available. Care should be exercised to ensure that the most recent version (by date) is used as a reference.

CIRCULAR WQB-7 is a complex document. Close attention must be paid to the frequent use of 'detailed notes of explanation'. They are used in both the table headings and individual line items, many times, both. Detailed notes of explanation follow the table portion of CIRCULAR WQB-7 and are found in the format of (n) where n is a number.

CIRCULAR WQB-7 uses the more restrictive value of either the 304(a) criteria or the drinking water MCL for Human Health Standards, whenever required, in order to be able to fully protect the concept of 'multi-use' of Montana's waters. For instance, if the human-health Standard for a particular pollutant has been established at 1,200 μg/L (micro-grams per Liter) and the same pollutant has an organoleptic (taste and/or odor) Standard established at 20 μg/L, then CIRCULAR WQB-7 would have the Standard set at the more limiting value of 20 μg/L. In similiar manner, whenever both Aquatic Life Standards and Human Health Standards exist for the same analyte, the more restrictive of these values will be used as the numeric Surface Water Quality Standard.

CIRCULAR WQB-7 sets Standards for surface and ground waters. In addition WQB-7 lists values which are to be used in conjunction with the non-degredation rules ARM 16.20.701 et seq to determine and evaluate degradation. Standards for 'Harmful' parameters will be used as nondegredation criteria for both surface waters and ground waters. For a given pollutant, the Human Health Standard is the same for both surface and ground water but the analysis method differs. Except where noted, the surface water analysis method is always 'total-recoverable' while the analysis method used for ground water will be 'dissolved'.

Special attention should be paid to the pollutants/conditions such as ammonia, hardness, and oxygen as the Standards are set over a range of values, or are computed using a complex formula, or depend upon special circumstances.

Alkalinity, chloride, hardness, sediment, sulfate, and total dissolved solids have 'Narrative Standards' and are referenced back to the Administrative Rules of Montana (ARM) 16.20.633(1) et seq and ARM 16.20.1003 et seq for further details and explanation.

The Standards for fecal coliform, color, dissolved gases, odor, pH, and temperature are dependent upon the water-use classifications as specified in ARM, Title 16, Chapter 20 - Water Quality, Sub-Chapter 6, SURFACE WATER QUALITY STANDARDS.

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Acenaphthene §§ — § Acenaphthalene § Naphthyleneethylene § 1,8-Ethylenenaphthalene § 1,8-Ethylene Naphthalene § 1,2-Dihydroacenphthylene § Acenphthylene, 1,2-Dihydro-	83329 or 83-32-9 NIOSH: AB 1255500 SAX: AAE750	Harmful	—	—	242	20	N/A	10
Acenaphthylene (PAH) §§ — § Cyclopenta(De)Naphthalene	208968 or 208-96-8 NIOSH: AB 1254000 SAX: AAF500	Toxin	—	—	30	—	2.3	10
Acrolein §§ — § Biocide § Crolean § Aqualin § Aqualine § Propenal § SHA 00701 § 2-propenal § Acraldehyde § Acrylaldehyde § Acrylic Aldehyde § Ethylene Aldehyde	107028 or 107-02-8 NIOSH: AS 1050000 SAX: ADR000	Toxin	—	—	215	320	0.7	20
Acrylamide §§ 2-Propenamide § Propenamide § Acrylic Amide § Ethylenecarboxamide § RCRA Waste Number U007	79061 or 79-06-1 NIOSH: AS 3325000 SAX: ADS250	Carcinogen	—	—	—	0.08	N/A	—
Acrylonitrile §§ — § Ventox § ENT 54 § TL 314 § Fumigrain § Carbacryl § Cyanoethylene § Vinyl cyanide § Propenenitrile § 2-Propenenitrile § Acrylonitrile monomer § RCRA Waste Number U009	107131 or 107-13-1 NIOSH: AT 5250000 SAX: ADX500	Carcinogen	—	—	30	0.59	N/A	20
Alachlor §§ — § Lazo § Lasso § Alator § Alanex § Alochlor § Pillarzo § Metachlor § Chimiclor § SHA 090501 § Methachlor § 2-Chloro-N-(2,6-Diethyl)Phenyl-N-Methoxymethylacetamide § 2-Chloro-2',6'-Diethyl-N-(Methoxymethyl)Acetanilide	15972608 or 15972-60-8 NIOSH: AE 1225000 SAX: CFX000	Carcinogen	—	—	—	2	N/A	0.4
Aldicarb §§ Temik § Temic § Ambush § OMS 771 § Temik G 10 § Aldecarb § Carbamyl § SHA 098301 § Carbanolate § Sulfone Aldoxycarb § Union Carbide 21149 § RCRA Waste Number P070 § Propanal, 2-Methyl-2-(Methylthio)-, O-[(Methylamino)Carbonyl]Oxime	116063 or 116-06-3 NIOSH: UE 2275000 SAX: CBM500	Toxin	—	—	—	1	1	1
Aldicarb Sulfone §§ Aldoxycarb § Standak § UC 21865 § Sulfocarb § SHA 110801 § Propionaldehyde, 2-Methyl-2-(Methylsulfonyl)-, O-(Methylcarbomoyl)Oxime § 2-Methyl-2-(Methylsulfonyl)Propanal O-[(Methylamino)Carbonyl]Oxime	1646884 or 1646-88-4 NIOSH: UE 2080000 SAX: AFK000	Toxin	—	—	—	1	1	1
Aldicarb Sulfoxide §§ —	1646873 or 1646-87-3 NIOSH: — SAX: —	Toxin	—	—	—	4	1	1

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16) Acute (3)	Aquatic Life Standards (16) Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Required Reporting Value (19)
Aldrin §§ — § HHDN § Altox § Drinox § Aldrex § Aldrite § Seedrin § Octalene § SHA 045101 § RCRA Waste Number P004 § Hexachlorohexahydro-endo-exo-Dimethanonaphthalene § 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-Hexahydro-1,4,5,8-Dimethanonaphthalene § 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-Hexahydro-endo,exo- § 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-Hexa-Hydro-1,4:5,8-Endo,Exo-Dimethanonaphthalene § 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-Hexahydro-1,4-endo-exo-5,8-Dimethanonaphthalene	309002 or 309-00-2 NIOSH: IO 2100000 SAX: AFK250	Carcinogen	1.5	—	4,670	0.0013	N/A	0.2
Alkalinity, total, as $CaCO_3$ §§ —	471341 or 471-34-1 NIOSH: — SAX: —	Narrative (18)	—	—	—	—	—	5,000
Alpha Emitters §§ — § Gross Alpha § Adjusted Gross Alpha	Multiple	Carcinogen / Radioactive	—	—	—	150 pico-curies/liter	N/A	—
Aluminum, pH 6.5 to 9.0 only (9) (6) §§ Al	7429905 or 7429-90-5 NIOSH: BD 0330000 SAX: AGX000	Toxin	750	87	—	—	30	100
Ammonia [total ammonia nitrogen (NH_3-N plus NH_4-N)] as mg/l N § Ammonia Anhydrous § Anhydrous Ammonia § Spirit of Hartshorn	7664417 or 7664-41-7 NIOSH: BO 0875000 SAX: AMY500	Toxin	(7)(8)	(7)(8)	—	—	10	50
Anthracene (PAH) §§ Paranaphthalene § Green Oil § Anthracin § Tetra Olive N2G	120127 or 120-12-7 NIOSH: CA 9350000 SAX: APG500	Toxin	—	—	30	9,600	0.04	0.2
Antimony (9) §§ Sb § Antimony Black § Antimony Regulus § C.I. 77050 § Stibium	7440360 or 7440-36-0 NIOSH: CC 4025000 SAX: AQB750	Toxin	—	—	1	6	0.4	3
Aroclor 1016 §§ PCB 1016 § PCB-1016 § Arochlor 1016 § Chlorodiphenyl (16% Cl) § Polychlorinated Biphenyl (Aroclor 1016)	12674112 or 12674-11-2 NIOSH: — SAX: —	Carcinogen	—	0.014	31,200	0.00044	N/A	1
Aroclor 1221 §§ PCB 1221 § PCB-1221 § Arochlor 1221 § Chlorodiphenyl (21% Cl) § Polychlorinated Biphenyl (Aroclor 1221)	11104282 or 11104-28-2 NIOSH: TQ 1352000 SAX: PJM000	Carcinogen	—	0.014	31,200	0.00044	N/A	15
Aroclor 1232 §§ PCB 1232 § PCB-1232 § Arochlor 1232 § Chlorodiphenyl (32% Cl) § Polychlorinated Biphenyl (Aroclor 1232)	11141165 or 11141-16-5 NIOSH: TQ 1354000 SAX: PJM250	Carcinogen	—	0.014	31,200	0.00044	N/A	1

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Aroclor 1242 §§ PCB 1242 § PCB-1242 § Arochlor 1242 § Chlorodiphenyl (42% Cl) § Polychlorinated Biphenyl (Aroclor 1242)	53469219 or 53469-21-9 NIOSH: 1356000 SAX: PJM500	Carcinogen	—	0.014	31,200	0.00044	N/A	1
Aroclor 1248 §§ PCB 1248 § PCB-1248 § Arochlor 1248 § Chlorodiphenyl (48% Cl) § Polychlorinated Biphenyl (Aroclor 1248)	12672296 or 12672-29-6 NIOSH: TQ 1358000 SAX: PJM750	Carcinogen	—	0.014	31,200	0.00044	N/A	1
Aroclor 1254 §§ PCB 1254 § PCB-1254 § Arochlor 1254 § Chlorodiphenyl (54% Cl) § Polychlorinated Biphenyl (Aroclor 1254) § NCI C02664	11097691 or 11097-69-1 NIOSH: TQ 1360000 SAX: PJN000	Carcinogen	—	0.014	31,200	0.00044	N/A	1
Aroclor 1260 §§ PCB 1260 § PCB-1260 § Clophen A60 § Arochlor 1260 § Phenoclor DP6 § Chlorodiphenyl (60% Cl) § Polychlorinated Biphenyl (Aroclor 1260)	11096825 or 11096-82-5 NIOSH: TQ 1362000 SAX: PJN250	Carcinogen	—	0.014	31,200	0.00044	N/A	1
Aroclor 1262 §§ PCB 1262 § PCB-1262 § Arochlor 1262 § Chlorodiphenyl (62% Cl) § Polychlorinated Biphenyl (Aroclor 1262)	37324235 or 37324-23-5 NIOSH: TQ 1364000 SAX: PJN500	Carcinogen	—	0.014	31,200	0.00044	N/A	1
Aroclor 1268 §§ PCB 1268 § PCB-1268 § Arochlor 1268 § Chlorodiphenyl (68% Cl) § Polychlorinated Biphenyl (Aroclor 1268)	11100144 or 11100-14-4 NIOSH: TQ 1366000 SAX: PJN750	Carcinogen	—	0.014	31,200	0.00044	N/A	1
Aroclor 2565 §§ PCB 2565 § PCB-2565 § Arochlor 2565 § Polychlorinated Biphenyl (Aroclor 2565)	37324246 or 37324-24-6 NIOSH: TQ 1368000 SAX: PJO000	Carcinogen	—	0.014	31,200	0.00044	N/A	1
Aroclor 4465 §§ PCB 4465 § PCB-4465 § Arochlor 4465 § Polychlorinated Biphenyl (Aroclor 4465)	11120299 or 11120-29-9 NIOSH: TQ 1370000 SAX: PJO250	Carcinogen	—	0.014	31,200	0.00044	N/A	1
Polychlorinated Biphenyl (Kanechlor 300) §§ — § Kanechlor 300	37353632 or 37353-63-2 NIOSH: TQ 1372000 SAX: PJO500	Carcinogen	—	0.014	31,200	0.00044	N/A	1
Polychlorinated Biphenyl (Kanechlor 400) §§ — § Kanechlor 400 § KC-400	12737870 or 12737-87-0 NIOSH: TQ 1374000 SAX: PJO750	Carcinogen	—	0.014	31,200	0.00044	N/A	1
Polychlorinated Biphenyl (Kanechlor 500) §§ — § Kanechlor 500 § KC-500	37317412 or 37317-41-2 NIOSH: TQ 1376000 SAX: PJP000	Carcinogen	—	0.014	31,200	0.00044	N/A	1

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Polychlorinated Biphenyls, mixed §§ PCB's § Aroclor § Chlophen § Chlorextol § Chlorinated Biphenyl § Chlorinated Diphenyl § Chlorinated Diphenylene § Chloro Biphenyl § Chloro-1,1-Biphenyl § Clophen § Dykanol § Fenclor § Inerteen § Kanechlor § Montar § Noflamol § PCB (DOT) § Phenochlor § Polychlorobiphenyl § Pyralene § Pyranol § Santotherm § Sovol § Therminol FR-1	1336363 or 1336-36-3 NIOSH: TQ 1350000 SAX: PJL750	Carcinogen	—	0.014	31,200	0.00044	N/A	1
Arsenic, inorganic (9) §§ As § Arsenicals § Arsenic-75 § Arsenic Black § Colloidal Arsenic § Grey Arsenic § Metallic Arsenic	7440382 or 7440-38-2 NIOSH: CG 0525000 SAX: ARA750	Carcinogen	360	190	44	18	N/A	3
Asbestos, Chrysotile §§ — § 7-45 Asbestos § Asbestos (ACGIH) § Asbestos, White Dot § Avibest C § Calidria RG 100 § Calidria RG 144 § Calidria RG 600 § Cassir AK § Chrysotile Asbestos § Chrysotile (DOT) § Hooker Number 1 Chrysotile Asbestos § Metaxite § NCI C61223A § Plastibest 20 § Serpentine § Serpentine Chrysotile § Sylodex § White Asbestos	12001295 or 12001-29-5 NIOSH: CI 6478500 SAX: ARM268	Carcinogen	—	—	—	700,000 fibers/liter	N/A	—
Asbestos, Actinolite §§ — § Asbestos (ACGIH) § Actinolite Asbestos	77536664 or 77536-66-4 NIOSH: CI 6476000 SAX: ARM260	Carcinogen	—	—	—	700,000 fibers/liter	N/A	—
Asbestos, Amosite §§ — § Amosite Asbestos § Asbestos (ACGIH) § Mysorite § NCI C60253A	12172735 or 12172-73-5 NIOSH: CI 6477000 SAX: ARM262	Carcinogen	—	—	—	700,000 fibers/liter	N/A	—
Asbestos, Anthophylite §§ — § Anthophylite § Asbestos (ACGIH) § Azbolen Asbestos § Ferroanthophyllite	77536675 or 77536-67-5 NIOSH: CI 6478000 SAX: ARM264	Carcinogen	—	—	—	700,000 fibers/liter	N/A	—
Asbestos §§ — § Amianthus § Amosite (Obs.) § Amphibole § Asbestos Fiber § Fibrous Grunerite § NCI C08991 § Serpentine	1332214 or 1332-21-4 NIOSH: CI 6475000 SAX: ARM 250	Carcinogen	—	—	—	700,000 fibers/liter	N/A	—
Asbestos, Crocidolite §§ — § Amorphous Crocidolite Asbestos § Asbestos (ACGIH) § Blue Asbestos (DOT) § Crocidolite Asbestos § NCI C09007 § Crocidolite (DOT) § Fibrous Crocidolite Asbestos	12001284 or 12001-28-4 NIOSH: CI 6479000 SAX: ARM275	Carcinogen	—	—	—	700,000 fibers/liter	N/A	—
Asbestos, Tremolite §§ — § Asbestos (ACGIH) § Fibrous Tremolite § NCI C08991 § Tremolite Asbestos	77536686 or 77536-68-6 NIOSH: 6560000 SAX: ARM280	Carcinogen	—	—	—	700,000 fibers/liter	N/A	—

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			Acute (3)	Chronic (4)				
Atrazine §§ — § Aatrex § Aktikon § Atrazine § Atred § Candex § Crisatrina § Crisazine § Cyazin § Fenamin § Fenamine § Zeaphos § Fenatrol § Gesaprim § Hungazin § Inakor § Primatol § Malermais § Radazin § Radizine § Shell Atrazine herbicide § Strazine § Triazine A 1294 § Vectal § Weedex A § Wonuk § Zeazin § Zeazine § SHA 080803 § 1-Chloro-3-Ethylamino-5-Isopropylamino-2,4,6-Triazine § s-Triazine, 2-Chloro-4-Ethylamino-6-Isopropylamino- § 2-Chloro-4-Ethylamino-6-Isopropylamino-s-Triazine § 6-Chloro-N-Ethyl-N'-(1-Methylethyl)-1,3,5-Triazine-2,4-Diamine	1912249 or 1912-24-9 NIOSH: XY 5600000 SAX: PMC325	Toxin	—	—	—	3	0.1	0.6
Barium (9) §§ Ba	7440393 or 7440-39-3 NIOSH: CA 8370000 SAX: BAH250	Toxin	—	—	—	1,000	2	5
Benzene §§ — § Phene § Benzol § Benzolene § Pyrobenzol § Carbon Oil § SHA 109301 § Coal Naphtha § Motor Benzol § Phenyl hydride § Cyclohexatriene § Caswell Number 077 § RCRA Waste Number U019 § EPA Pesticide Chemical Code 008801 § NCI C55276	71432 or 71-43-2 NIOSH: CY 1400000 SAX: BBL250	Carcinogen	—	—	5.2	5	N/A	0.5
Benzidine §§ — § p,p'-Bianiline § 4,4'-Bianiline § 4,4'-Biphenyldiamine § p,p'-Diaminobiphenyl § 4,4'-Diaminodiphenyl § RCRA Waste Number U021 § 4,4'-Biphenylenediamine § 4,4'-Diphenylenediamine § Biphenyl, 4,4'-Diamino- § 4,4'-Diamino-1,1'-Biphenyl § (1,1'-Biphenyl)-4,4'-Diamine § NCI C03361	92875 or 92-87-5 NIOSH: DC 9625000 SAX: BBX000	Carcinogen	—	—	87.5	0.0012	N/A	20
Benz[a]anthracene (PAH) §§ — § Tetraphene § Benzanthracene § Benzoanthracene § Naphthanthracene § 1,2-Benzanthrene § Benz(a)Anthracene § Benzo[a]Anthracene § Benzo(a)Anthracene § 1,2-Benzanthracene § Benzo(b)Phenanthrene § 1,2-Benzoanthracene § Benzanthracene, 1,2- § 1,2-Benz(a)Anthracene § 2,3-Benzophenanthrene § RCRA Waste Number U018	56553 or 56-55-3 NIOSH: CV 9275000 SAX: BBC250	Carcinogen	—	—	30	0.044	N/A	0.25
Benzo[b]Fluoranthene (PAH) §§ — § B(b)F § Benzo(b)Fluoranthene § Benzo(e)Fluoranthene § Benzo[e]Fluoranthene § 2,3-Benzfluoranthene § 3,4-Benzfluoranthene § 3,4-Benzofluoranthene § 2,3-Benzofluoranthene § 2,3-Benzofluoranthrene § Benz(e)Acephenanthrylene § Benz[e]Acephenanthrylene § 3,4-Benz(e)Acephenanthrylene	205992 or 205-99-2 NIOSH: CU 1400000 SAX: BAW250	Carcinogen	—	—	30	0.044	N/A	0.25

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			Acute (3)	Chronic (4)				
Benzo[k]Fluoranthene (PAH) §§ — § Benzo(k)Fluoranthene § 8,9-Benzofluoranthene § Dibenzo(b,jk)Fluorene § 2,3,1'8'-Binaphthylene § 11,12-Benzofluoranthene § 11,12-Benzo(k)Fluoranthene	207089 or 207-08-9 NIOSH: DF 6350000 SAX: BCJ750	Carcinogen	—	—	30	0.044	N/A	0.25
Benzo(g,h,i)perylene (PAH) §§ 1,12-Benzoperylene § 1,12-Benzperylene § Benzo(ghi)Perylene	191242 or 191-24-2 NIOSH: DI 6200500 SAX: BCR000	Toxin	—	—	30	—	0.076	10
Benzo[a]Pyrene (PAH) §§ — § BaP § 3,4-BP § Benz(a)Pyrene § Benzo-a-Pyrene § 3,4-Benzpyrene § 6,7-Benzopyrene § 3,4-Benzopyrene § 3,4-Benz(a)Pyrene § Benzo(d,e,f)Chrysene § Benzo(def)Chrysene	50328 or 50-32-8 NIOSH: DJ 3675000 SAX: BCS750	Carcinogen	—	—	30	0.2	N/A	0.2
Beryllium (9) §§ Be § Beryllium-9 § Glucinum § RCRA Waste Number P015	7440417 or 7440-41-7 NIOSH: DS 1750000 SAX: BFO750	Carcinogen	—	—	19	40	N/A	1
Beta-Chloronaphthalene §§ 2-Chloronaphthalene § ß-Chloronaphthalene § Naphthalene, 2-Chloro- § RCRA Waste Number U047	91587 or 91-58-7 NIOSH: QJ 2275000 SAX: CJA000	Toxin	—	—	202	1,700	0.94	10
Beta Emitters (10) §§ — § Gross Beta	12587472 or 12587-47-2 NIOSH: — SAX: —	Carcinogen / Radioactive	—	—	—	40 mrem ede/yr	N/A	—
Bis(2-Chloroethoxy)Methane §§ — § Bis(ß-Chloroethyl)Formal	111911 or 111-91-1 NIOSH: PA 3675000 SAX: BID750	Toxin	—	—	0.64	—	0.5	—
Bis(2-Chloroisopropyl) Ether §§ — § DCIP § NCI C50044 § RCRA Waste Number U027 § Dichlorodiisopropyl Ether § 2,2'-Oxybis(1-Chloropropane) § Bis (2-Chloroisopropyl) ether § Propane, 2,2'-Oxybis(2-Chloro- § Propane, 2,2'-Oxybis[1-Chloro- § 2',2'-Dichlorodiisopropyl Ether § Dichlorodiisopropyl Ether (DOT) § Bis(2-Chloro-1-Methylethyl) Ether	108601 or 108-60-1 NIOSH: KN 1750000 SAX: BII250	Toxin	—	—	2.47	1,400	0.8	10
Bis(Chloroethyl)Ether §§ — § BCEE § DCEE § Clorex § Chlorex § Chloroethyl Ether § Dichloroethyl Ether § Dichloroethyl Oxide § RCRA Waste Number U025 § Bis(Chloroethyl) Ether § Di(2-Chloroethyl) Ether § Bis (Chloroethyl) Ether § Bis(2-Chloroethyl) Ether § Bis(ß-Chloroethyl) Ether § ß,ß'-Dichloroethyl Ether § 2,2'-Dichloroethyl Ether § Bis (2-Chloroethyl) Ether § 1,1'-Oxybis(2-Chloro)Ethane § Ethane, 1,1'-Oxybis[2-Chloro- § beta,beta'-Dichloroethyl Ether § 1-Chloro-2-(beta-Chloroethoxy)Ethane	111444 or 111-44-4 NIOSH: KN 0875000 SAX: BIC750	Carcinogen	—	—	6.9	0.31	N/A	10

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Bis(Chloromethyl)Ether §§ — § BCME § bis-CME § Chloromethyl Ether § Oxybis(Chloromethane) § RCRA Waste Number P016 § Bis (Chloromethyl) Ether § sym-Dichlorodimethyl Ether § 1,1'-Dichlorodimethyl Ether § Dimethyl-1,1'-Dichloroether § Chloro(Chloromethoxy)Methane	542881 or 542-88-1 NIOSH: 1575000 SAX: BIK000	Carcinogen	—	—	0.63	0.0016	N/A	10
Bromodichloromethane (HM) §§ — § BDCM § NCI C55243 § Dichlorobromomethane § Methane, bromodichloro- § Dichloromonobromomethane § Monobromodichloromethane	75274 or 75-27-4 NIOSH: PA 5310000 SAX: BND500	Carcinogen	—	—	3.75	5.6	N/A	0.5
p-Bromodiphenyl Ether §§ — § p-Bromodiphenyl Ether § 4-Bromophenoxybenzene § 4-Bromodiphenyl Ether § 1-Bromo-4-Phenoxybenzene § p-Bromophenylphenyl Ether § 4-Bromophenyl Phenyl Ether § Benzene, 1-Bromo-4-Phenoxy-	101553 or 101-55-3 NIOSH: — SAX: —	Toxin with BCF >300	—	—	1,640	—	N/A	10
Bromoform (HM) §§ Tribromomethane § NCI C55130 § Methane, Tribromo- § Methenyl Tribromide § RCRA Waste Number U225	75252 or 75-25-2 NIOSH: PB 5600000 SAX: BNL000	Carcinogen	—	—	3.75	43	N/A	0.5
Bromomethane (HM) §§ Methyl Bromide § EDCO § Celfume § Dowfume § Methogas § SHA 053201 § Brom-O-Sol § Brom-O-Gas § Terr-O-Gas § Halon 1001 § Terr-O-Cide § Bromo-O-Gas § Bromo Methane § Methylbromide § Methyl Bromide § Methane, Bromo- § Monobromomethane § RCRA Waste Number U029	74839 or 74-83-9 NIOSH: PA 4900000 SAX: BNM500	Toxin	—	—	3.75	48	0.11	0.5
Butyl Benzyl Phthalate §§ — § BBP § Sicol 160 § Unimoll BB § Palatinol BB § Santicizer 160 § Butylbenzylphthalate § Butylbenzyl Phthalate § Benzyl Butyl Phthalate § n-Benzyl Butyl Phthalate § Benzyl n-Butyl Phthalate § Phthalic Acid, Benzyl Butyl Ester § Butyl Phenylmethyl 1,2-Benzenedicarboxylate § 1,2-Benzenedicarboxylic Acid, Butyl Phenylmethyl Ester § NCI C54375	85687 or 85-68-7 NIOSH: TH 9990000 SAX: BEC500	Toxin with BCF >300	—	—	414	3,000	N/A	10
Cadmium (9) §§ Cd § C.I. 77180 § Colloidal Cadmium	7440439 or 7440-43-9 NIOSH: EU 9800000 SAX: CAD000	Toxin	3.9 @ 100 mg/l hardness (12)	1.1 @ 100 mg/l hardness (12)	64	5	0.1	0.1
Carbofuran §§ — § Yaltox § Euradan § Furadan § Curaterr § Furacarb § SHA 090601 § Niagra 10242 § 2,2-Dimethyl-7-Coumaranyl N-Methylcarbamate § 2,2-Dimethyl-2,3-Dihydro-7-Benzofuranyl N-Methylcarbamate § Carbamic Acid, Methyl-, 2,3-Dihydro-2,2-Dimethyl-7-Benzofuranyl Ester	1563662 or 1563-66-2 NIOSH: FB 9450000 SAX: FPE000	Toxin	—	—	—	40	1	1

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16) Acute (3)	Aquatic Life Standards (16) Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Required Reporting Value (19)
Carbon Tetrachloride §§ — § R 10 § Univerm § Freon 10 § Tetrasol § Fasciolin § Flukoids § Necatorina § Necatorine § Halon 104 § Tetraform § Carbon Tet § Benzinoform § Carbon Chloride § Perchloromethane § Tetrachloromethane § Methane Tetrachloroide § RCRA Waste Number U211	56235 or 56-23-5 NIOSH: FG 4900000 SAX: CBY000	Carcinogen	—	—	18.75	2.5	N/A	0.5
Cesium (10) §§ Cs	Cesium 134 13967709 or 13967-70-9 NIOSH: — SAX: —	Carcinogen / Radioactive	—	—	—	40 mrem ede/yr	N/A	—
Cesium (10) §§ Cs	Cesium 137 10045973 or 10045-97-3 NIOSH: — SAX: —	Carcinogen / Radioactive	—	—	—	40 mrem ede/yr	N/A	—
Cesium (10) §§ Cs	Cesium 137 12587472 or 12587-47-2 NIOSH: — SAX: —	Carcinogen / Radioactive	—	—	—	40 mrem ede/yr	N/A	—
Cesium (10) §§ Cs	Cesium 144 — NIOSH: — SAX: —	Carcinogen / Radioactive	—	—	—	40 mrem ede/yr	N/A	—
Chlordane §§ — § Belt § Niran § Dowchlor § Chlortox § Chlordan § Clordano § Chlor Kil § Toxichlor § Octa-Klor § Ortho-Klor § SHA 058201 § Gold Crest C-100 § Chlordane, Technical § RCRA Waste Number U036 § Octachloro-4,7-Methanohydroindane § Octachlorodihydrodicyclopentadiene § 1,2,4,5,6,7,8,8-Octachloro-3a,4,7,7a-Hexahydro § Octachloro-4,7-Methanotetrahydroindane-4,7-Methylene Indane § 4,7-Methanoindan, 1,2,4,5,6,7,8,8-Octachloro-3a,4,7,7a-tetrahydro- § 1,2,4,5,6,7,8,8-Octachloro-2,3,3a,4,7,7a-Hexahydro-4,7-Methano-Indene § 4,7-Methano-1H-Indene 1,2,4,5,6,7,8,8-Octachloro-2,3,3a,4,7,7a-Hexahydro-	57749 or 57-74-9 NIOSH: PB 9800000 SAX: CDR750	Carcinogen	1.2	0.0043	14,100	0.0057	N/A	0.4
alpha-Chlordane §§ — § α-Chlordane § cis-Chlordan § cis-Chlordane § α(cis)-Chlordane § Chlordane, cis-Isomer	5103719 or 5103-71-9 NIOSH: PB 9705000 SAX: CDR675	Carcinogen	1.2	0.0043	14,100	0.0057	N/A	0.4
gamma-Chlordane §§ — § Chlordane, beta-Isomer	5103742 or 5103-74-2 NIOSH: — SAX: —	Carcinogen	1.2	0.0043	14,100	0.0057	N/A	0.4

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16) Acute (3)	Aquatic Life Standards (16) Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Required Reporting Value (19)
trans-Nonachlor (Chlordane component) §§ — § Chlordane, trans-Isomer	39765805 or 39765-80-5 NIOSH: — SAX: —	Carcinogen	1.2	0.0043	14,100	0.0057	N/A	0.4
Chloride §§ —	16887006 or 16887-00-6 NIOSH: — SAX: —	Narrative (18)	860,000	230,000	—	—	N/A	1,000
Chlorine, total residual §§ Cl § Bertholite § Chlorine, molecular § Molecular Chlorine	7782505 or 7782-50-5 NIOSH: FO 2100000 SAX: CDV750	Toxin	19	11	—	—	100	—
p-Chloro-m-Cresol §§— § PCMC § Parol § Aptal § Baktol § Baktolan § Ottafact § Raschit § Rasen-Anicon § Parmetol § Candasetpic § Chlorocresol § Preventol CMK § RCRA Waste Number U039 § Parachlorometra Cresol § 4-Chloro-3-methylphenol § 2-Chloro-Hydroxytoluene § Phenol, 4-Chloro-3-methyl- § Chlorophenol, 4-, methyl, 3-	59507 or 59-50-7 NIOSH: GO 7100000 SAX: CFE250	Harmful	—	—	—	3,000	N/A	20
Chlorobenzene §§ Monochlorobenzene § MCB § Chlorobenzol § Chlorbenzene § Phenyl Chloride § Benzene Chloride § Benzene, Chloro- § Monochlorbenzene § RCRA Waste Number U037 § NCI C54886	108907 or 108-90-7 NIOSH: CZ 0175000 SAX: BBM750	Harmful	—	—	10.3	20	N/A	0.5
2-Chloroethyl Vinyl Ether §§ — § (2-Chloroethoxy)Ethene § RCRA Waste Number U042 § Vinyl ß-Chloroethyl Ether § Vinyl 2-Chloroethyl Ether	110758 or 110-75-8 NIOSH: KN 6300000 SAX: CHI250	Carcinogen	—	—	0.557	—	N/A	—
Chloroform (HM) §§ Trichloromethane § TCM § Freon 20 § Trichloroform § R-20 Refrigerant § Methenyl Chloride § Formyl Trichloride § Methyl Trichloride § Methane Trichloride § Methane, Trichloro- § Methenyl Trichloride § RCRA Waste Number U044 § NCI CO2686	67663 or 67-66-3 NIOSH: FS 9100000 SAX: CHJ500	Carcinogen	—	—	3.75	57	N/A	0.5
Chloroethane §§ — § Aethylis § Aethylis Chloridum § Anodynon § Chelen § Chlorethyl § Chloridum § Chloroethane § Chloryl § Chloryl Anesthetic § Ethyl Chloride § Ether Chloratus § Ether Hydrochloric § Ether Muriatic § Hydrochloric Ether § Kelene § Monochlorethane § Muriatic Ether § Narcotile § NCI C06224	75003 or 75-00-3 NIOSH: KH 7525000 SAX: EHH000	Toxin	—	—	—	—	0.52	—
2-Chlorophenol §§ — § o-Chlorophenol § Chlorophenol, 2- § Phenol, 2-Chloro- § Phenol, o-Chloro- § RCRA Waste Number U048	95578 or 95-57-8 NIOSH: SK 2625000 SAX: CJK250	Harmful	—	—	134	0.1	N/A	10

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4-Chlorophenyl Phenyl Ether §§ — §	7005723 or 7005-72-3 NIOSH: — SAX: —	Toxin with BCF >300	—	—	1,200	—	N/A	—
Chlorpyrifos §§ — § Ethion § Brodan § Eradex § Dursban § Lorsban § Pyrinex § NA 2783 § Piridane § DowCo 179 § SHA 059101 § Ethion, dry § Chlorothalonil § Chlorpyrifos-Ethyl § O,O-Diethyl O-3,5,6-Trichloro-2-Pyridyl Phosphorothioate § Phosphorothioic Acid, O,O-Diethyl O-(3,5,6-Trichloro-2-Pyridyl) Ester	2921882 or 2921-88-2 NIOSH: TF 6300000 SAX: DYE000	Toxin	0.083	0.041	—	—	0.025	1
Chromium (9) §§ Cr § Chrome	7440473 or 7440-47-3 NIOSH: GB 4200000 SAX: CMI750	Toxin	—	—	—	100	0.1	1
Chromium, trivalent (9) §§ Chromium (III)	16065831 or 16065-83-1 NIOSH: — SAX: —	Toxin	1,700 @ 100 mg/l hardness (12)	210 @ 100 mg/l hardness (12)	16	100	—	—
Chromium, hexavalent (9) §§ Chromium (VI)	18540299 or 18540-29-9 NIOSH: — SAX: —	Toxin	16	11	16	100	5	5
Chrysene (PAH) §§ — § Benz(a)Phenanthrene § Benzo(a)Phenanthrene § 1,2-Benzphenanthrene § 1,2-Benzophenanthrene § RCRA Waste Number U050 § 1,2,5,6-Dibenzonaphthalene	218019 or 218-01-9 NIOSH: GC0700000 SAX: CML810	Carcinogen	—	—	30	0.044	N/A	0.25
Coliform, fecal (13) (18) §§ —	N/A	Narrative - Surface Toxin - Ground	—	—	—	—, Surface 1 per 100mL, Ground	—, Surface 1 per 100mL, Ground	1 per 100mL, Surface 1 per 100mL, Ground
Color (13) §§ —	N/A	Harmful	—	—	—	—	N/A	5 UNITS
Conductance, specific (21) §§ —	N/A	Narrative	—	—	—		N/A	—
Copper (9) §§ Cu § Allbri Natural Copper § ANAC 110 § Arwood Copper § Bronze Powder § CDA 101 § CDA 102 § CDA 110 § CDA 122 § C.I. 77400 § C.I. Pigment Metal 2 § Copper Bronze § 1721 Gold § Gold Bronze § Kafar Copper § M1 (Copper) § M2 (Copper) § OFHC C_u § Raney Copper	7440508 or 7440-50-8 NIOSH: GL 5325000 SAX: CNI000	Toxin	18 @ 100 mg/l hardness (12)	12 @ 100 mg/l hardness (12)	36	1,000	0.5	1
Cyanide, total §§ — § Cyanide § Isocyanide § RCRA Waste Number P030 § Cyanides, includes soluble salts and complexes	57125 or 57-12-5 NIOSH: GS 7175000 SAX: COI500	Toxin	22	5.2	1	200	5	5

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Dalapon §§ — § Dalpon § Unipon § Dowpon § Radapon § Revenge § Basinex § Ded-Weed § Dalacide § Gramevin § Crisapon § Dalpon Sodium § Sodium Dalapon § 2,2-Dichloropropionic Acid § SHA 28902, for sodium salt § SHA 28901, for dalapon only § Propionic Acid, 2,2-Dichloro- § Sodium 2,2-Dichloropropionate § α-Dichloropropionic Acid § α,α-Dichloropropionic Acid § alpha-alpha-Dichloropropionic Acid	75990 or 75-99-0 NIOSH: UF 0690000 SAX: DGI400	Toxin	—	—	—	200	1.3	3
Dalapon, sodium salt §§ — § Dalpon § Unipon § Dowpon § Radapon § Revenge § Basinex § Ded-Weed § Dalacide § Gramevin § Crisapon § Dalpon Sodium § Sodium Dalapon § 2,2-Dichloropropionic Acid § SHA 28902, for sodium salt § SHA 28901, for dalapon only § Propionic Acid, 2,2-Dichloro- § Sodium 2,2-Dichloropropionate § alpha-alpha-Dichloropropionic Acid	127208 or 127-20-8 NIOSH: UF 1225000 SAX: DGI600	Toxin	—	—	—	200	1.3	3
Demeton §§ — § Systox § Bay 10756 § Bayer 8169 § Demox § Diethoxy Thiophosphoric Acid Ester of 2-Ethylmercaptoethanol § O,O-Diethyl 2-Ethylmercaptoethyl Thiophosphate § O,O-Diethyl O(and S)-2-(Ethyl-Thio)Ethyl Phosphorothioate Mixture § E 1059 § ENT 17,295 § Mercaptophos § Systemox § Systox § ULV § Demeton-O + Demeton-S	8065483 or 8065-48-3 NIOSH: TF 3150000 SAX: DAO600	Toxin	—	0.1	—	—	—	—
Di(2-Ethylhexyl)Adipate §§ Hexanedioic Acid § DEHA § BEHA § Bisoflex DOA § Effemoll DOA § Ergoplast AdDO § Flexol A 26 § PX-238 § Reomol DOA § Vestinol OA § Wickenol 158 § Kodaflex DOA § Monoplex DOA § NCI C54386 § Octyl Adipate § Dioctyl Adipate § Di-2-Ethylhexyl Adipate § Di (2-Ethylhexyl) Adipate § Bis(2-Ethylhexyl) Adipate § Adipic Acid, Bis(2-Ethylhexyl) Ester § Hexanedioic Acid, Bis(2-Ethylhexyl) Ester	103231 or 103-23-1 NIOSH: AU 9700000 SAX: AEO000	Toxin	—	—	—	400	0.5	6
Di(2-Ethylhexyl)Phthalate (PAE) §§ Bis(2-Ethylhexyl)Phthalate § BEHP § DEHP § Octoil § Fleximel § Flexol DOP § Kodaflex DOP § Ethylhexyl Phthalate § Diethylhexyl Phthalate § 2-Ethylhexyl Phthalate § Di(Ethylhexyl)phthalate § Di(2-Ethylhexyl)phthalate § Bis (2-Ethylhexyl) Phthalate § Bis(2-Ethylhexyl)-1,2-Benzene-Dicarboxylate § 1,2-Benzenedicarboxylic Acid, Bis(2-Ethylhexyl)Ester	117817 or 117-81-7 NIOSH: TI 0350000 SAX: BJS000	Carcinogen	—	—	130	6	N/A	6
n-Dioctyl Phthalate §§ — § DNOP § PX-138 § Vinicizer 85 § Dinopol NOP § n-Octyl Phthalate § Octyl Phthalate § Dioctyl Phthalate § Di-n-Octyl Phthalate § Di-sec-Octyl Phthalate § RCRA Waste Number U107 § 1,2-Benzenedicarboxylic Acid, Dioctyl Ester	117840 or 117-84-0 NIOSH: TI 1925000 SAX: DVL600	Carcinogen	—	—	—	—	N/A	6

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			Acute (3)	Chronic (4)				
Dibenz[a,h]Anthracene (PAH) §§ — § DBA § DB(a,h)A § Dibenz(a,h)Anthracene § RCRA Waste Number U063 § Dibenzo(a,h)anthracene § 1,2:5,6-Benzanthracene § Dibenzo (a,h) Anthracene § 1,2,5,6-Dibenzanthracene § 1,2:5,6-Dibenz(a)Anthracene	53703 or 53-70-3 NIOSH: HN 2625000 SAX: DCT400	Carcinogen	—	—	30	0.044	N/A	0.5
1,2-Dibromo-3-Chloropopane §§ — § DBCP § Fumagon § Fumazone § NCI C00500 § Nemabrom § Nemafume § Nemagon § Nemagone § Nemagone Soil Fumigant § Nemanax § Nemapaz § Nemaset § Nematocide § Nematox § OS 1897 § OXY DBCP § SD 1897 § Caswell Number 287 § Dibromochloropropane § RCRA Waste Number U066 § 1-Chloro-2,3-Dibromopropane § Propane, 1,2-Dibromo-3-Chloro- § EPA Pesticide Chemical Code 011301	96128 or 96-12-8 NIOSH: TX 8750000 SAX: DDL800	Carcinogen	—	—	—	0.2	N/A	0.05
Dibromochloromethane (HM) §§ — § CDBM § NCI C55254 § Chlorodibromomethane § Methane, Dibromochloro- § Dibromomonochloromethane § Monochlorodibromomethane	124481 or 124-48-1 NIOSH: PA 6360000 SAX: CFK500	Carcinogen	—	—	3.75	4.1	N/A	0.5
Dibutyl Phthalate §§ — § DPB § Celluflex DPB § Elaol § Hexaplas M/B § Palatinol C § Polycizer DBP § PX 104 § Staflex DBP § Witcizer § SHA 028001 § Butylphthalate § N-Butylphthalate § Dibutyl Phthalate § Di-n-Butylphthalate § Di-n-Butylphthalate § Dibutyl-o-Phthalate § Di-n-Butyl Phthalate § RCRA Waste Number U069 § Phthalic Acid Dibutyl Ester § Dibutyl 1,2-Benzene Dicarboxylate § 1,2-Benzenedicarboxylic Acid Dibutyl Ester § 1,2-Benzenedicarboxylic Acid, Dibutyl Ester § Benzene-o-Dicarboxylic Acid Di-n-Butyl Ester	84742 or 84-74-2 NIOSH: TI 0875000 SAX: DEH200	Toxin	—	—	89	2,700	0.25	0.25
1,2-Dichlorobenzene §§ — § DCB § ODB § ODCB § Dizene § Cloroben § Chloroben § Chloroden § Termitkil § Dilatin DB § Dowtherm E § Dilantin DB § o-Dichlorobenzene § Orthodichlorobenzene § ortho-Dichlorobenzene § Special Termite Fluid § Benzene, 1,2-Dichloro- § RCRA Waste Number U070	95501 or 95-50-1 NIOSH: CZ 4500000 SAX: DEP600	Toxin	—	—	55.6	600	0.02	10
1,3-Dichlorobenzene §§ — § M-Dichlorobenzene § m-Dichlorobenzene § meta-Dichlorobenzene § Dichlorobenzene, 1,3- § Benzene, 1,3-Dichloro-	541731 or 541-73-1 NIOSH: CZ 4499000 SAX: DEP699	Toxin	—	—	55.6	400	0.006	10

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			Acute (3)	Chronic (4)				
1,4-Dichlorobenzene §§ — § PDB § PDCB § NCI C54955 § Evola § Paradi § Paradow § Persia-Perazol § Paracide § Parazene § Paramoth § Santochlor § Paranuggets § di-Chloricide § Para Chrystals § p-Dichlorobenzene § Caswell Number 632 § Paradichlorobenzene § para-Dichlorobenzene § Benzene, 1,4-Dichloro- § RCRA Waste Number U070 § RCRA Waste Number U071 § RCRA Waste Number U072 § p-Chlorophenyl Chloride § EPA Pesticide Chemical Code 061501	106467 or 106-46-7 NIOSH: CZ 4550000 SAX: DEP800	Toxin	—	—	55.6	75	0.006	10
3,3'-Dichlorobenzidine §§ — § DCB § C.I. 23060 § Curithane C126 § Dichlorobenzidine § o,o'-Dichlorobenzidine § Dichlorobenzidine Base § Benzidine, 3,3'-Dichloro- § RCRA Waste Number U073 § 3,3'-Dichloro-4,4'-Diaminodiphenyl § 3,3'-Dichloro-(1,1'-Biphenyl)-4,4'-Diamine § 1,1'-Biphenyl-4,4'-Diamine, 3,3'-Dichloro-	91941 or 91-94-1 NIOSH: DD 0524000 SAX: DEQ400	Carcinogen	—	—	312	0.39	N/A	20
Dichlorodifluoromethane (HM) §§ — § F 12 § R 12 § FC 12 § Halon § CFC-12 § Arcton 6 § Electro-CF 12 § Eskimon 12 § Frigen 12 § Gentron 12 § Isceon 122 § Kaiser Chemicals 12 § Ledon 12 § Ucon 12 § Freon 12 § Propellant 12 § Refrigerant 12 § Fluorcarbon-12 § RCRA Waste Number U075 § Difluorodichloromethane § Methane, dichlorodifluoro-	75718 or 75-71-8 NIOSH: PA 8200000 SAX: DFA600	Toxin	—	—	3.75	6,900	0.05	0.5
p,p'-Dichlorodiphenyl Dichloroethane §§ — § TDE § DDD § Dilene § NCI C00475 § Rothane § Rhothane § 4,4'-DDD § p,p'-DDD § p,p'-TDE § 4',4'-D-DDD § RCRA Waste Number U060 § Tetrachlorodiphenylethane § Dichlorodiphenyldichloroethane § Dichlorodiphenyl Dichloroethane § 2,2-bis (4-Chlorophenyl)-1,1-Dichloroethane § 1,1-Dichloro-2,2-bis(p-Chlorophenyl) Ethane § 1,1-bis(4-Chlorophenyl)-2,2-Dichloroethane § 2,2-bis(p-Chlorophenyl)-1,1-Dichloroethane § Benzene, 1,1'(2,2-Dichloroethylidene)Bis[4-Chloro-	72548 or 72-54-8 NIOSH: KI 0700000 SAX: BIM500	Carcinogen	—	—	53,600	0.0083	N/A	0.01
p,p'-Dichlorodiphenyldichloroethylene §§ — § DDE § p,p'-DDE § 4,4'-DDE § NCI C00555 § Dichlorodiphenyldichloroethylene § Dichlorodiphenyldichloroethylene, p,p'- § 2,2'-bis(4-Chlorophenyl)-1,1-Dichloroethylene § 1,1'-(Dichloroethenylidene)bis(4-Chlorobenzene) § 2,2'-bis(p-Chlorophenyl)-1,1-Dichloroethylene § Benzene, 1,1'-(DichloroethenylideneBis[4-Chloro-	72559 or 72-55-9 NIOSH: KV 9450000 SAX: BIM750	Carcinogen	—	—	53,600	0.0059	N/A	0.01

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			Acute (3)	Chronic (4)				
p,p'-Dichlorodiphenyltrichloroethane §§ — § DDT § 4,4'-DDT § Agritan § Anoflex § Arkotine § Azotox § Bosan Supra § Bovidermol § Chlorophenothan § Chlorophenothane § Chlorophenotoxum § Citox § Clofenotane § Dedelo § § Chlorophenothane § Diphenyltrichloroethane § Dichlorodiphenyltrichloroethane § 4,4'-Dichlorodiphenyltrichloroethane § Dichlorodiphenyltrichloroethane, p,p'- § 1,1,1-Trichloro-2,2,-bis(p-Chlorophenyl) Ethane § 1,1,1-Trichloro-2,2,-bis(p-Chlorophenyl)Ethane § 1,1,1-Trichloro-2,2,-Di(4-Chlorophenyl)-Ethane § 1,1-Bis-(p-Chlorophenyl)-2,2,2-Trichloroethane § 2,2-Bis-(p-Chlorophenyl)-1,1,1-Trichloroethane § Benzene, 1,1'-(2,2,2-Trichloroethylidene)Bis(4-Chloro-) § alpha,alpha-Bis(p-Chlorophenyl)-beta,beta,beta-Trichlorethane	50293 or 50-29-3 NIOSH: KJ 3325000 SAX: DAD200	Carcinogen	0.55	0.001	53,600	0.0059	N/A	0.06
1,1-Dichloroethane §§ Vinylidene Chloride § VDC § 1,1-DCE § NCI C04535 § 1,1-Dichloroethene § Vinylidene Chloride § 1,1-Dichloroethylene § Ethene, 1,1-Dichloro- § Vinylidene Dichloride § Ethylidene Dichloride § Dichloroethylene, 1,1- § RCRA Waste Number U076 § Ethylene, 1,1-Dichloro- § Chlorinated Hydrochlororic Ether	75343 or 75-34-3 NIOSH: KI 0175000 SAX: DFF809	Carcinogen	—	—	—	—	N/A	0.5
1,2-Dichloroethane §§ — § EDC § Brocide § 1,2-DCE § NCI C00511 § Dutch Oil § Dutch Liquid § Dichloremulsion § Di-Chlor-Mulsion § 1,2-Bichlorethane § 1,2-Dichlorethane § Ethane Dichloride § Ethylene Chloride § 1,2-Bichloroethane § Ethylene Dichloride § Dichloroethane, 1,2- § Ethane, 1,2-Dichloro- § RCRA Waste Number U077 § 1,2-Ethylene Dichloride § alpha,beta-Dichloroethane	107062 or 107-06-2 NIOSH: KI 0525000 SAX: DFF900	Carcinogen	—	—	1.2	3.8	N/A	0.5
1,1-Dichloroethene §§ Vinylidene Chloride § VDC § 1,1-DCE § Sconatex § NCI C54262 § 1,1-Dichloroethane § 1,1-Dichloroethene § Vinylidene Chloride § 1,1-Dichloroethylene § Vinylidene Dichloride § Ethene, 1,1-Dichloro- § Vinylidene Chloride II § RCRA Waste Number U078 § Dichloroethylene, 1,1- § Ethylene, 1,1-Dichloro-	75354 or 75-35-4 NIOSH: KV 9275000 SAX: DFI000	Carcinogen	—	—	5.6	5.7	N/A	0.5
cis-1,2-Dichloroethylene §§ — § 1,2-Dichloroethylene § cis-Dichloroethylene § cis-1,2-Dichloroethene § 1,2,cis-Dichloroethylene § ethylene, 1,2-Dichloro-, (z)-	156592 or 156-59-2 NIOSH: KV 9420000 SAX: DFI200	Toxin	—	—	—	70	0.002	0.5
trans-1,2-Dichloroethylene §§ — § trans-Dichloroethylene § RCRA Waste Number U079 § trans-1,2-Dichloroethane § trans-1,2-Dichloroethene § Dichloroethylene, trans- § trans-Acetylene Dichloride § 1,2-trans-Dichloroethylene § Ethene, 1,2-Dichloro-, (E)- § 1,2-Dichloroethylene, trans-	156605 or 156-60-5 NIOSH: KV 9400000 SAX: DFI600	Toxin	—	—	1.58	100	0.05	0.5

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16) Acute (3)	Aquatic Life Standards (16) Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Required Reporting Value (19)
Dichloromethane (HM) §§ Methylene Chloride § R 30 § DCM § Freon 30 § Aerothene MM § NCI C50102 § Solmethine § Methylene Chloride § Methane Dichloride § Methane, Dichloro- § 1,1-Dichloromethane § Methylene Bichloride § Methylene Dichloride	75092 or 75-09-2 NIOSH: PA 8050000 SAX: MDR000	Carcinogen	—	—	0.9	5	N/A	0.5
2,4-Dichlorophenol §§ — § DCP § 2,4-DCP § NCI C55345 § Dichlorophenol, 2,4- § Phenol, 2,4-Dichloro- § RCRA Waste Number U081	120832 or 120-83-2 NIOSH: SK 8575000 SAX: DFX800	Harmful	—	—	40.7	0.3 (5)	N/A	10
2,4-Dichlorophenoxyacetic Acid §§ — § 2,4-D § Salvo § Phenox § Farmco § Amidox § Miracle § Agrotect § Weedtrol § Herbidal § Ded-Weed § Lawn-Keep § Fernimine § Crop Rider § Aqua-Kleen § Dichlorophenoxyacetic Acid § 2,4-Dichlorophenoxy Acetic Acid § Dichlorophenoxyacetic Acid, 2,4- § Acetic Acid, (2,4-Dichlorophenoxy)- § 2,4-Dichlorophenoxyacetic Acid, salts and esters	94757 or 94-75-7 NIOSH: AG 6825000 SAX: DFY600	Toxin	—	—	—	70	0.2	1
1,2-Dichloropropane §§ — § NCI C55141 § Propylene Chloride § Propylene Dichloride § Caswell Number 324 § Propane, 1,2-Dichloro- § α,β-Propylene Dichloride § alpha,beta-Dichloropropane § RCRA Waste Number U083 § EPA Pesticide Chemical Code 029002	78875 or 78-87-5 NIOSH: TX 9625000 SAX: DGF600	Toxin	—	—	4.11	0.52	0.01	0.5
1,3-Dichloropropene §§ Telone II § Telone § NCI C03985 § Vidden D § Dichloropropene § α-Chloroallyl Chloride § γ-Chloroallyl Chloride § Dichloropropene, 1,3- § 1,3-Dichloropropylene § 1,3-Dichloro-2-Propene § Propene, 1,3-Dichloro- § Telone II Soil Fumigant § 3-Chloropropenyl Chloride § alpha,gamma-Dichloropropylene	542756 or 542-75-6 NIOSH: UC 8310000 SAX: CEF750	Toxin	—	—	1.91	10	0.5	0.5
cis-1,3-Dichloropropene §§ Telone II § 1,3-Dichloropropene § 1,3-Dichloropropylene § (Z)-1,3-Dichloropropene § cis-1,3-Dichloropropylene § 1-Propene, 1,3-Dichloro-, (Z)-	10061015 or 10061-01-5 NIOSH: UC 8325000 SAX: DGH200	Toxin	—	—	1.91	10	0.01	0.5
trans-1,3-Dichloropropene §§ Telone II § 1,3-Dichloropropene § 1,3-Dichloropropylene § (E)-1,3-Dichloropropene § trans-1,3-Dichloropropylene § 1-Propene, 1,3-Dichloro-, (E)-	10061026 or 10061-02-6 NIOSH: UC 8320000 SAX: DGH000	Toxin	—	—	1.91	10	0.05	0.5

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Dieldrin §§ — § Alvit § Quintox § Octalox § Illoxol § Dieldrex § NCI C00124 § Dieldrite § SHA 045001 § RCRA Waste Number P037 § 1,4:5,8-Dimethanonaphthalene § Hexachloroepoxyoctahydro-endo,exo-Dimethanonaphthalene § 3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-Octahydro-2,7:3,6-Dimethanonaphth(2,3-b)Oxirene § 2,7:3,6-Dimethanonaphth(2,3-b)Oxirene, 3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-Octahydro- § 1,2,3,4,10,10-Hexachloro-6,7-Epoxy-1,4,4a,5,6,7,8,8a-Octahydro-Endo,Exo-1,4:5,8-Dimethanonaphthalene	60571 or 60-57-1 NIOSH: IO 1750000 SAX: DHB400	Carcinogen	1.25	0.0019	4,670	0.0014	N/A	0.02
Diethyl Phthalate §§ — § Anozol § Neantine § Solvanol § NCI C60048 § Placidole E § Ethyl Phthalate § Diethylphthalate § Diethyl-o-Phthalate § RCRA WAste Number U088 § 1,2-Benzenedicarboxylic Acid, Diethyl Ester	84662 or 84-66-2 NIOSH: TI 1050000 SAX: DJX000	Toxin	—	—	73	23,000	0.25	0.25
Dimethyl Phthalate §§ — § DMP § NTM § ENT 262 § Mipax § Avolin § Fermine § Solvanom § Solvarone § Palatinol M § Methyl Phthalate § Dimethylphthalate § Phthalic Acid, Dimethyl Ester § Dimethyl Benzene-o-Dicarboxylate § Dimethyl 1,2-Benzenedicarboxylate § 1,2-Benzenedicarboxylic Acid, Dimethyl Ester	131113 or 131-11-3 NIOSH: TI 1575000 SAX: DTR200	Toxin	—	—	36	310,000	0.04	0.25
2,4-Dimethylphenol §§ — § m-Xylenol § 2,4-Xylenol § 4,6-Dimethylphenol § Caswell Number 907A § 2,4-Dimethyl Phenol § Phenol, 2,4-Dimethyl- § RCRA Waste Number U101 § 1-Hydroxy-2,4-Dimethylbenzene § 4-Hydroxy-1,3-Dimethylbenzene § EPA Pesticide Chemical Code 086804	105679 or 105-67-9 NIOSH: ZE 5600000 SAX: XKJ500	Harmful	—	—	93.8	400	N/A	10
4,6-Dinitro-o-Cresol §§ — § Detal § Sinox § DNOC § Arborol § Capsine § Dinitrol § Trifocide § Antinonin § Winterwash § Dinitrocresol § Dinitro-o-Cresol § Caswell Number 390 § 2,4-Dinitro-o-Cresol § Dinitro-o-Cresol, 4,6- § o-Cresol, 4,6-dinitro- § RCRA Waste Number P047 § 2-Methyl-4,6-Dinitrophenol § 4,6-Dinitro-2-Methylphenol § 2,4-Dinitro-6-Methylphenol § 3,5-Dinitro-2-Hydroxytoluene § Phenol, 2-Methyl-4,6-Dinitro-	534521 or 534-52-1 NIOSH: GO 9625000 SAX: DUT400	Toxin	—	—	5.5	13	16	50
2,4-Dinitrophenol §§ — § Nitro § Aldifen § Kleenup § 2,4-DNP § Chemox PE § Maroxol-50 § Solfo Black B § alpha-Dinitrophenol § Dinitrophenol, 2,4- § Phenol, 2,4-Dinitro- § Tertrosulphur Black PB § RCRA Waste Number P048 § 1-Hydroxy-2,4-Dinitrobenzene	51285 or 51-28-5 NIOSH: SL 2800000 SAX: DUZ000	Toxin	—	—	1.5	70	13	50

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
2,4-Dinitrotoluene §§ — § 2,4-DNT § NCI C01865 § 2,4-Dinitrotoluol § Toluene, 2,4-Dinitro- § RCRA Waste Number U105 § Benzene, 1-Methyl-2,4-Dinitro-	121142 or 121-14-2 NIOSH: XT 1575000 SAX: DVH000	Carcinogen	—	—	3.8	1.1	N/A	10
2,6-Dinitrotoluene §§ — § 2,6-DNT § 2-Methyl-1,3-Dinitrobenzene § RCRA Waste Number U106	606202 or 606-20-2 NIOSH: XT 1925000 SAX: DVH400	Toxin	—	—	—	—	0.01	—
Dinoseb §§ — § DNBP § DBNF § Aretit § Basanite § Caldon § Sparic § Kiloseb § Spurge § Premerge § Dinitro § Hel-Fire § SHA 037505 § Dow General § Sinox General § RCRA Waste Number P020 § Dow General Weed Killer § Vertac General Weed Killer § 2-sec-Butyl-4,6-Dinitrophenol § Dinitro-Ortho-Sec-Butyl Phenol § 2-(1-Methylpropyl)-4,6-Dinitrophenol § 4,6-Dinitro-2-(1-Methyl-n-Propyl)Phenol § Phenol, 2-(1-Methylpropyl)-4,6-Dinitro-	88857 or 88-85-7 NIOSH: SJ 9800000 SAX: BRE500	Toxin	—	—	—	7	0.19	1.5
Dioxin §§ — § TCDD § TCDBD § NCI C03714 § Dioxine § Tetradioxin § 2,3,7,8-TCDD § 2,3,7,8-Tetrachlorodibenzo-p-Dioxin § 2,3,7,8-Tetrachlorodibenzo-1,4-Dioxin § Dibenzo[b,e][1,4]Dioxin, 2,3,7,8-Tetrachloro-	1746016 or 1746-01-6 NIOSH: HP 3500000 SAX: TAI000	Carcinogen	—	—	5,000	0.00000003	N/A	1
1,2-Diphenylhydrazine §§ — § Hydrazobenzene § NCI C01854 § N,N'-Bianiline § Benzene, Hydrazodi- § RCRA Waste Number U109 § (sym)-Diphenylhydrazine § Diphenylhydrazine, 1,2- § Hydrazine, 1,2-Diphenyl-	122667 or 122-66-7 NIOSH: MW 2625000 SAX: HHG000	Carcinogen	—	—	24.9	0.4	N/A	10
Diquat §§ — § Actor § Feglox § Deiquat § Reglone § Aquacide § Dextrone § Paraquat § Preeglove § SHA 032201 § Weedtrine-D § Diquat Dibromide § Ethylene Dipyridylium Dibromide § 1,1-Ethylene 2,2-Dipyridylium Dibromide § 5,6-Dihydro-Dipyrido(1,2a,1c)Pyrazinium Dibromide § 9,10-Dihydro-8a,10a-Diazoniaphenanthrene(1,1'-Ethylene-2,'-Bipyridylium)Dibromide	85007 or 85-00-7 NIOSH: JM 5690000 SAX: DWX800	Toxin	—	—	—	20	0.44	10

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			Acute (3)	Chronic (4)				
Endosulfan §§ — § NCI C00566 § Malixv § Ensure § Beosit § Endocel § Thiodan § Cyclodan § Crisulfan § Benzoepin § Thiosulfan § SHA 079401 § Chlorthiepin § RCRA Waste Number P050 § Endosulfan (mixed isomers) § Hexachlorohexahydromethano 2,4,3-Benzodioxathiepin-3-Oxide § 1,4,5,6,7,7-Hexachloro-5-Norbornene-2,3-Dimethanol Cyclic Sulfite § 5-Norbornene-2, 3-Dimethanol, 1,4,5,6,7,7-Hexachloro Cyclic Sulfite § 6,7,8,9,10,10-Hexachloro-1,5,5a,6,9,9a-Hexahydro-6,9-Methano-2,4,3-Benzodioxathiepin-3-Oxide § 6,9-Methano-2,4,3-Benzodioxathiepin, 6,7,8,9,10,10-Hexachloro-1,5,5a,6,9,9a-Hexahydro-, 3-Oxide	115297 or 115-29-7 NIOSH: RB 9275000 SAX: BCJ250	Toxin	0.11	0.056	270	110	see Cis and Trans isomers	see Cis and trans isomers
Endosulfan, I §§ — § Thiodan I § Endosulfan-I § Alpha-Endosulfan § alpha-Endosulfan	959988 or 959-98-8 NIOSH: — SAX: —	Toxin	0.11	0.056	270	110	0.014	0.015
Endosulfan, II §§ — § Thiodan II § Endosulfan-II § Beta-Endosulfan § beta-Endosulfan	33213659 or 33213-65-9 NIOSH: — SAX: —	Toxin	0.11	0.056	270	110	0.004	0.024
Endosulfan Sulfate §§ — § 6,9-Methano-2,3,4-Benzodioxathiepin, 6,7	1031078 or 1031-07-8 NIOSH: — SAX: —	Toxin	—	—	270	110	0.05	0.05
Endothall §§ — § Hydout § Hydrothal-47 § Aquathol § SHA 038901 § Accelerate § Tri-Endothal § Endothal Hydout § RCRA Waste Number P088 § 3,6-Endooxohexahydrophthalic Acid § Phthalic Acid, Hexahydro-3,6-endo-Oxy- § 7-Oxabicyclo(2,2,1)Heptane-2,3-Dicarboxylic Acid § 1,2-Cyclohexanedicarboxylic Acid, 3,6-endo-Epoxy-	145733 or 145-73-3 NIOSH: RN 7875000 SAX: EAR000	Toxin	—	—	—	100	1	2
Endrin §§ — § NCI C00157 § Endrex § Mendrin § Nendrin § Hexadrin § SHA 041601 § Compound 269 § RCRA Waste Number P051 § 1,2,3,4,10,10-Hexachloro-6,7-Epoxy-1,4,4(a)5,6,7,8,8a-Octahydro-endo § 3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-Octahydro-2,7:3,6-Dimethanonaphth[2,3-b]oxirene § 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-Hexachloro-6,7-Epoxy-1,4,4a,5,6,7,8,8a-Octahydro-Endo,Endo-	72208 or 72-20-8 NIOSH: IO 1575000 SAX: EAT500	Toxin with BCF >300	0.09	0.0023	3,970	0.76	N/A	0.3
Endrin Aldehyde §§ —	7421934 or 7421-93-4 NIOSH: — SAX: —	Toxin with BCF >300	—	—	3,970	0.76	N/A	0.025
Epichlorohydrin §§ — § ECH § Epoxy Propane § α-Epichlorohydrin § Chloromethyloxirane § RCRA Waste Number U041 § γ-Chloropropyleneoxide § 2-Chloropropylene Oxide § Glycerol Epichlorhydrin § 2,3-Epoxypropyl Chloride § 1-Chlor-2,3-Epoxypropane § 3-Chlor-1,2-Epoxypropane	106898 or 106-89-8 NIOSH: TX 4900000 SAX: CGN750	Carcinogen	—	—	—	30	N/A	—

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			Acute (3)	Chronic (4)				
Ethylbenzene §§ — § EB § NCI C56393 § Ethylbenzol § Phenylethane § Ethyl Benzene § Benzene, Ethyl	100414 or 100-41-4 NIOSH: DA 0700000 SAX: EGP500	Toxin	—	—	37.5	700	0.002	0.5
1,2-Dibromoethane §§ Ethylene Dibromide § DBE § EDB § Nephis § Kopfume § Celmide § E-D-Bee § Soilfume § Bromofume § Dowfume 40 § SHA 042002 § Pestmaster § Soilbrom-40 § Dibromoethane § Ethylene Bromide § Glycol Dibromide § 1,2-Dibromoethane § Dibromoethane, 1,2- § 1,2-Ethylene Dibromide § RCRA Waste Number U067	106934 or 106-93-4 NIOSH: KH 9275000 SAX: EIY500	Carcinogen	—	—	—	0.05	N/A	0.5
Fluoranthene §§ — § Idryl § Benzo(jk)Fluorene § Benzo(j,k)Fluorene § 1,2-Benzacenaphthene § RCRA Waste Number U120 § 1,2-(1,8-Naphthylene)Benzene § Benzene, 1,2-(1,8-Naphthalenediyl)-	206440 or 206-44-0 NIOSH: LL 4025000 SAX: FDF000	Toxin with BCF >300	—	—	1,150	300	N/A	10
Fluorene (PAH) §§ — § 9H-Fluorene § Diphenylenemethane § o-Biphenylenemethane § 2,2'-Methylenebiphenyl	86737 or 86-73-7 NIOSH: — SAX: —	Carcinogen	—	—	30	13,000	N/A	0.25
Fluorine §§ Flouride § Fluoride § Fluoride(1-) § Perfluoride § Fluoride Ion § Fluorine, Ion § Soluable Fluoride § RCRA Waste Number P056 § Hydrofluoric Acid, Ion(1-)	7782414 or 7782-41-4 NIOSH: LM 6475000 SAX: FEZ000	Toxin	—	—	—	4,000	5	100
Fluoride §§ Flourine § Fluoride § Fluoride(1-) § Perfluoride § Fluoride Ion § Fluorine, Ion § Soluable Fluoride § RCRA Waste Number P056 § Hydrofluoric Acid, Ion(1-)	16984488 or 16984-48-8 NIOSH: LM 6290000 SAX: FEX875	Toxin	—	—	—	4,000	5	100
Gamma Emitters (18) §§ —	Multiple	Carcinogen / Radioactive	—	—	—	40 mrem ede/yr	N/A	—
Gases; dissolved, total-pressure (20) §§ —	Multiple	Toxin	—	110% of saturation	—	—	—	—
Glyphosate §§ — § Jury § Honcho § Rattler § Weedoff § Roundup § Glifonox § n-(Phosphonomethyl)-Glycine § Glycine, n-(Phosphonomrthyl)- § Glyphosate plus inert ingrediants § MON 0573	1071836 or 1071-83-6 NIOSH: MC 1075000 SAX: PHA500	Toxin	—	—	—	700	6	50
Glyphosate Isopropylamine Salt §§ — § SHA 103601	38641940 or 38641-94-0 NIOSH: — SAX: —	Toxin	—	—	—	700	6	50

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Guthion §§ — § DBD § NCI C00066 § Carfene § Gothnion § Azinphos § Crysthyon § Gusathion § Bay 17147 § Methylazinphos § Methyl Guthion § Methyl-Guthion § Azinphos-Methyl § Azinphos Methyl § Caswell Number 374 § EPA Pesticide Chemical Code 058001 § o,o-Dimethylphosphorodithioate S-Ester § 3-Mercaptomethyl)-1,2,3-Benzotriazin-4(3H)-One § Benzotriazinedithiophosphoric Acid Dimethoxy Ester § 3-Dimethoxyphosphinothiomethyl-1,2,3-Benzotriazin-4(3H)-One § Phosphorodithioic Acid, O,O-Dimethyl Ester, S-Ester with 3-(Mercaptomethyl)-1,2,3-Benzotriazin-4(3H)-One	86500 or 86-50-0 NIOSH: TE 1925000 SAX: ASH500	Toxin	—	0.01	—	—	—	—
Hardness, total §§ —	N/A	Narrative (18)	—	—	—	—	N/A	1,000
Heptachlor §§ — § NCI C00180 § Drinox § Heptamul § Agroceris § Heptagran § SHA 04481 § Rhodiachlor § Velsicol-104 § RCRA Waste Number P059 § 3,4,5,6,7,8,8a-heptachlorodicyclopentadiene § Dicyclopentadiene, 3,4,5,6,7,8,8a-Heptachloro- § 1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-Tetrahydro-4,7-Methanol-1H-Indene § 4,7-Methano-1H-Indene, 1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-Tetrahydro- § 1(3a),4,5,6,7,8,8-Heptachloro-3a(1),4,7,7a-Tetrahydro-4,7-Methanoindene	76448 or 76-44-8 NIOSH: PC 0700000 SAX: HAR000	Carcinogen	0.26	0.0038	11,200	0.0021	N/A	0.2
Heptachlor Epoxide §§ — § HCE § Velsicol 53-CS-17 § Epoxyheptachlor § 1,4,5,6,7,8,8-Heptachloro-2,3-Epoxy-2,3,3a,4,7,7a-Hexahydro-4,7-Methanoindene § 2,5-Methano-2H-Indeno[1,2b]Oxirene, 2,3,4,5,6,7,7-Heptachloro-1a,1b,5,5a,6,6a-Hexahydro- (alpha, beta, and gamma isomers)	1024573 or 1024-57-3 NIOSH: PB 9450000 SAX: EBW500	Carcinogen	0.26	0.0038	11,200	0.001	N/A	0.1
Hexachlorobenzene §§ — § HCB § Amatin § Smut-Go § Sanocide § Anticarie § Bunt-Cure § Bunt-No-More § Perchlorobenzene § Phenyl Perchloryl § No Bunt Liquid § Julin's Carbon Chloride § Co-op Hexa § Hexa C.B. § Benzene, Hexachloro-	118741 or 118-74-1 NIOSH: DA 2975000 SAX: HCC500	Carcinogen	—	—	8,690	0.0075	N/A	0.2
Hexachlorobutadiene §§ — § HCBD § Dolan-Pur § Perchlorobutadiene § RCRA Waste Number U128 § 1,3-Hexachlorobutadiene § 1,3-Butadiene, Hexachloro- § 1,1,2,3,4,4-Hexachloro-1,3-Butadiene § 1,3-Butadiene, 1,1,2,3,4,4-Hexachloro-	87683 or 87-68-3 NIOSH: EJ 0700000 SAX: PCF000	Carcinogen	—	—	2.78	4.4	N/A	10
Hexachlorocyclohexane §§ — § BHC § DBH § HCH § HCCH § HEXA § Hexylan § Hexachlor § Gammexane § Hexachloran § Compound 666 § Benzenehexachloride § Benzene Hexachloride	608731 or 608-73-1 NIOSH: GV 3150000 SAX: BBP750	Carcinogen	—	—	130	0.039	N/A	0.1

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16) Acute (3)	Aquatic Life Standards (16) Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Required Reporting Value (19)
alpha-Hexachlorocyclohexane §§ — § Benzene Hexachloride-α-isomer § α-BHC § alpha-BHC § HCH-alpha § alpha-HCH § alpha-Lindane § α Hexachlorocyclohexane § alpha-Benzenehexachloride § Hexachlorocyclohexane-alpha § alpha-Hexachlorocyclohexane § Benzene Hexachloride-alpha-isomer § alpha-1,2,3,4,5,6-Hexachlorocyclohexane § Cyclohexane, alpha-1,2,3,4,5,6-Hexachloro- § 1-alpha,2-alpha,3-beta,4-alpha,5-beta,6-beta-Hexachlorocyclohexane § Cyclohexane, alpha-1,2,3,4,5,6-Hexachloro-, (1-alpha, 2-alpha, 3-beta, 4-alpha, 5-beta, 6-beta)-	319846 or 319-84-6 NIOSH: GV 3500000 SAX: BBQ000	Carcinogen	—	—	130	0.039	N/A	0.1
beta-Hexachlorocyclohexane §§ — § ß-BHC § beta-BHC § HCH-beta § beta-HCH § ß-Lindane § beta-Lindane § beta-Hexachlorobenzene § ß Hexachlorocyclohexane § Hexachlorocyclohexane-beta § Hexachlorocyclohexane, beta- § trans-alpha-Benzenehexachloride § Benzenehexachloride, trans-alpha- § beta-1,2,3,4,5,6-Hexachlorocyclohexane § Cyclohexane, 1,2,3,4,5,6-Hexachloro-, beta- § 1-alpha,2-beta,3-alpha,4-beta,5-alpha,6-beta-Hexachlorocyclohexane § Cyclohexane, 1,2,3,4,5,6-Hexachloro-, (1-alpha, 2-beta, 3-alpha, 4-beta, 5-alpha, 6-beta)-	319857 or 319-85-7 NIOSH: GV 4375000 SAX: BBR000	Carcinogen	—	—	130	0.14	N/A	0.1
delta-Hexachlorocyclohexane §§ — § δ-BHC § delta-BHC § HCH-delta § delta-HCH § Δ-BHC § Δ-Lindane § delta-Lindane § δ Hexachlorocyclohexane § delta-Benzenehexachloride § Hexachlorocyclohexane-delta § Hexachlorocyclohexane, delta- § Cyclohexane, delta-1,2,3,4,5,6-Hexachloro- § delta-1,2,3,4,5,6-Hexachlorocyclohexane § 1-alpha,2-alpha,3-alpha,4-beta,5-alpha,6-beta-Hexachlorocyclohexane § Cyclohexane, delta-1,2,3,4,5,6-Hexachloro-, (1-alpha, 2-alpha, 3-alpha, 4-beta, 5-alpha, 6-beta)-	319868 or 319-86-8 NIOSH: GV 4550000 SAX: BFW500	Toxin	—	—	130	—	0.009	0.1
gamma-hexachlorocyclohexane §§ Lindane § ΓBHC § γ-BHC § Gamene § Lintox § Lentox § Hexcide § Aparsin § Agrocide § Afcide § BHC-gamma § gamma-BHC § HCH-gamma § gamma-HCH § Γ Hexachlorocyclohexane § gamma-Hexachlorobenzene § gamma-Benzenehexachloride § gamma-Benzene Hexachloride § Hexachlorocyclohexane-gamma § Hexachlorocyclohexane (gamma) § Benzene Hexachloride-gamma-isomer § gamma-1,2,3,4,5,6-Hexachlorocyclohexane § Cyclohexane, 1,2,3,4,5,6-Hexachloro-, gamma-isomer § 1,2,3,4,5,6-Hexachlorocyclohexane, gamma-isomer § 1-alpha,2-alpha,3-beta,4-alpha,5-alpha,6-beta-Hexachlorocyclohexane § Cyclohexane, 1,2,3,4,5,6-Hexachloro-, (1-alpha, 2-alpha, 3-beta, 4-alpha, 5-alpha, 6-beta)	58899 or 58-89-9 NIOSH: GV 4900000 SAX: BBQ500	Carcinogen	1	0.08	130	0.19	N/A	0.1
Hexachlorocyclopentadiene §§ — § HEX § HCP § PCL § C-56 § HCCPD § NCI C55607 § Hexachloropentadiene § RCRA Waste Number U130 § Perchlorocyclopentadiene § 1,3-Cyclopentadiene, 1,2,3,4,5,5-Hexachloro-	77474 or 77-47-4 NIOSH: GY 1225000 SAX: HCE500	Harmful	—	—	4.34	1	N/A	1

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			Acute (3)	Chronic (4)				
Hexachloroethane §§ — § Avlotane § Distokal § Distopan § Distopin § Egitol § Falkitol § Fasciolin § NCI C04604 § Phenohep § Mottenhexe § Perchloroethane § Hexachloroethylene § Ethane, Hexachloro- § Carbon Hexachloride § Ethane Hexachloride § Ethylene Hexachloride § RCRA Waste Number U131 § 1,1,1,2,2,2-Hexachloroethane	67721 or 67-72-1 NIOSH: KI 4025000 SAX: HCI000	Carcinogen	—	—	86.9	19	N/A	10
Hydrogen Sulfide §§ — § Stink Damp § Sulfur Hydride § Hydrogen Sulphide § Dihydrogen Sulfide § Hydrosulfuric Acid § Sulfurated Hydrogen § RCRA Waste Number U135 § Dihydrogen Monosulfide § Hydrogen Sulfuric Acid	7783064 or 7783-06-4 NIOSH: MX 1225000 SAX: HIC500	Toxin	—	2	—	—	200	200
Indeno(1,2,3-cd)pyrene (PAH) §§ — § o-Phenylenepyrene § 2,3-Phenylenepyrene § 2,3-o-Phenylenepyrene § RCRA Waste Number U137 § Indeno (1,2,3-cd) Pyrene § 1,10-(o-Phenylene)Pyrene § 1,10-(1,2-Phenylene)Pyrene	193395 or 193-39-5 NIOSH: NK 9300000 SAX: IBZ000	Carcinogen	—	—	30	0.044	N/A	0.5
Iodine (10) §§ I	Iodine 129 15046841 or 15046-84-1 NIOSH: — SAX: —	Carcinogen / Radioactive	—	—	—	40 mrem ede/yr	N/A	—
Iodine (10) §§ I	Iodine 131 10043660 or 10043-66-0 NIOSH: — SAX: —	Carcinogen / Radioactive	—	—	—	40 mrem ede/yr	N/A	—
Iodine (10) §§ I	Iodine 133 — NIOSH: — SAX: —	Carcinogen / Radioactive	—	—	—	40 mrem ede/yr	N/A	—
Iron (9) §§ Fe § Ancor EN 80/150 § Carbonyl Iron § Armco Iron	7439896 or 7439-89-6 NIOSH: NO 4565500 SAX: IGK800	Harmful	—	1,000	—	300	N/A	10
Isophorone §§ — § Isoforon § NCI C55618 § Isoacetophorone § alpha-Isophorone § 1,1,3-Trimethyl-3-Cyclohexene-5-One § 3,5,5-Trimethyl-2-Cyclohexene-1-One § 3,5,5-Trimethyl-2-Cyclohexone	78591 or 78-59-1 NIOSH: GW 7700000 SAX: IHO000	Carcinogen	—	—	4.38	360	N/A	10
Lead (9) §§ Pb § C.I. 77575 § C.I. Pigment Metal 4 § Glover § Lead Flake § Lead 22 § Omaha § Omaha & Grant § SI § SO	7439921 or 7439-92-1 NIOSH: OF 7525000 SAX: LCF000	Toxin	82 @ 100 mg/l hardness (12)	3.2 @ 100 mg/l hardness (12)	49	15	0.1	3

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
Malathion §§ — § Formal § Sumitox § Emmatos § Celthion § Forthion § Malacide § Kop-Thion § Calmathion § Carbethoxy § NCI C00215 § Carbethoxy Malathion § SHA 057701 § Phosphothion § S-1,2-Bis(Ethoxycarbonyl)Ethyl-O,O-Dimethyl Thiophosphate § O,O-Dimethyl-S-(1,2-Dicarbethoxyethyl) Dithiophosphate § O,O-Dimethyl S-1,2-Di(Ethoxycarbamyl)Ethyl Phosphorodithioate § Succinic Acid, mercapto-, diethyl ester, S-Ester with O,O-Dimethyl Phosphorodithioate	121755 or 121-75-5 NIOSH: WM 8400000 SAX: CBP000	Toxin	—	0.1	—	—	—	—
Manganese (9) §§ Mn § Colloidal Manganese § Magnacat § Tronamang	7439965 or 7439-96-5 NIOSH: OO 9275000 SAX: MAP750	Harmful	—	—	—	50	N/A	5
Mercury (9) §§ Hg § Colloidal Mercury § Mercury, Metallic § NCI C60399 § Quick Silver § RCRA Waste Number U151	7439976 or 7439-97-6 NIOSH: OV 4550000 SAX: MCW250	Toxin with BCF >300	2.4	0.012	5,500	0.14	N/A	0.6
Methoxychlor §§ — § DMDT § Metox § Moxie § Methoxcide § NCI C00497 § Methoxy-DDT § Dimethoxy-DDT § RCRA Waste Number U247 § 1,1,1-Trichloro-2,2-Bis(p-Methoxyphenyl)Ethane § Benzene, 1,1'-(2,2,2-Trichloroethylidene)Bis[4-Methoxy- § 1,1'-(2,2,2-Trichloroethylidene)Bis[4-Methoxybenzene] § Ethane, 1,1,1-Trichloro-2,2-Bis(p-Methoxyphenyl)-	72435 or 72-43-5 NIOSH: KJ 3675000 SAX: DOB400	Toxin	—	0.03	—	40	0.04	1
Methyl Chloride §§ Chloromethane § Arctic § Monochloromethane § RCRA Waste Number U045	74873 or 74-87-3 NIOSH: PA 6300000 SAX: CHX500	Toxin	—	—	3.75	—	0.08	—
Mirex §§ — § NCI C06428 § Dechlorane § Bichlorendo § Ferriamicide § Perchloropentacyclodecane § Dodecachloropentacyclodecane § Hexachlorocyclopentadiene Dimer § Cyclopentadiene; Hexachloro-, Dimer § Perchloropentacyclo(5.2.1.0[sup 2,6].0[sup 3,9].0[sup 5,8])Decane § Dodecachlorooctahydro-1,3,4-Metheno-2H-Cyclobuta (c,d)Pentalene § 1,1a,2,2,3,3a,4,5,5,5a,5b,6-Dodecachlorooctahydro-1,3,4-Metheno-1H-Cyclobuta(cd)Pentalene § 1,3,4-Metheno-1H-Cyclobuta[cd]Pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6,-Dodecachlorooctahydro-	2385855 or 2385-85-5 NIOSH: PC 8225000 SAX: MQW500	Toxin	—	0.001	—	—	0.01	0.1
Naphthalene §§ — § Mighty 150 § NCI C52904 § Naphthene § White Tar § Moth Balls § Naphthalin § Tar Camphor § Caswell Number 587 § RCRA Waste Number U165 § EPA Pesticide Chemical Code 055801	91203 or 91-20-3 NIOSH: QJ 0525000 SAX: NAJ500	Toxin	—	—	10.5	—	0.04	10

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Nickel (9) §§ Ni § C.I. 77775 § Ni 270 § Nickel 270 § Ni 0901-S § Ni 4303T § NP 2 § Raney Alloy § Raney Nickel	7440020 or 7440-02-0 NIOSH: QR 5950000 SAX: NCW500	Toxin	1,400 @ 100 mg/l hardness (12)	160 @ 100 mg/l hardness (12)	47	100	0.5	20
Nitrate (as Nitrogen[N]) §§ NO_3	14797558 or 14797-55-8 NIOSH: — SAX: —	Toxin	(8)	(8)	—	10,000	10, Surface 2,500, Ground	10
Nitrite (as Nitrogen[N]) §§ NO_2	14797650 or 14797-65-0 NIOSH: — SAX: —	Toxin	(8)	(8)	—	1,000	4	10
Nitrate plus nitrite (as Nitrogen[N]) §§ NO_3 + NO_2	17778880 or 17778-88-0 NIOSH: — SAX: —	Toxin/Harmful	(8)	(8)	—	10,000	10, Surface 2,500, Ground	10
Nitrobenzene §§ — § NCI C60082 § Mirbane Oil § Nitrobenzol § Oil of Mirbane § Benzene, Nitro- § Essence of Myrbane § RCRA Waste Number U169	98953 or 98-95-3 NIOSH: DA 6475000 SAX: NEX000	Toxin	—	—	2.89	17	1.9	10
o-Nitrophenol §§ — § 2-Nitrophenol § 2-Hydroxynitrobenzene	88755 or 88-75-5 NIOSH: SM 2100000 SAX: NIE500	Toxin	—	—	2.33	—	0.45	—
4-Nitrophenol §§ — § 4-Hydroxynitrobenzene § NCI C55992 § p-Nitrophenol (DOT) § RCRA Waste Number U170	100027 or 100-02-7 NIOSH: SM 2275000 SAX: NIF000	Toxin	—	—	3.31	—	2.4	—
N-Nitrosodi-N-Propylamine §§ — § DPN § DPNA § NDPA § Dipropylnitrosamine § N-Nitrosodipropylamine § Di-n-Propylnitrosamine § RCRA WAste Number U111 § Dipropylamine, N-Nitroso- § N-Nitrosodi-n-propylamine § N-Nitroso-di-n-propylamine § 1-Propanamine, N-Nitroso-n-Propyl-	621647 or 621-64-7 NIOSH: JL 9700000 SAX: DWU600	Carcinogen	—	—	1.13	0.05	N/A	10
N-Nitrosodimethylamine §§ Dimethylnitrosamine § DMN § NDMA § DMNA § Nitrosodimethylamine § Dimethylnitrosoamine § N-Nitrosodimethylamine § RCRA Waste Number P082 § N,N-Dimethylnitrosamine § Methylamine, N-Nitrosodi- § Dimethylamine, N-Nitroso- § N-Methyl-N-Nitrosomethanamine § Methamine, N-Methyl-N-Nitroso- § Methanamine, N-Methyl-N-Nitroso-	62759 or 62-75-9 NIOSH: IQ 0525000 SAX: DSY400	Carcinogen	—	—	0.026	0.0069	N/A	10

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			Acute (3)	Chronic (4)				
N-Nitrosodiphenylamine §§ — § NDPA § NDPhA § Vultrol § Curetard A § NCI C02880 § Redax § TJP § Retarder J § Vulcalent A § Vulcatard § Vultrol § Nitrosodiphenylamine § Diphenylnitrosamine § N,N-Diphenylnitrosamine § N-Nitroso-N-Phenylaniline § Diphenylamine, N-Nitroso- § Benzenamine, N-Nitroso-N-Phenyl-	86306 or 86-30-6 NIOSH: JJ 9800000 SAX: DWI000	Carcinogen	—	—	136	50	N/A	10
N-Nitrosopyrrolidene §§ — § NPYR § NO-pyr § N-N-pyr § 1-Nitrosopyrrolidene § Pyrrolidine, 1-Nitroso- § RCRA Waste Number U180 § Tetrahydro-N-Nitrosopyrrole § Pyrrole, Tetrahydro-N-Nitroso-	930552 or 930-55-2 NIOSH: UY 1575000 SAX: NLP500	Carcinogen	—	—	0.055	0.17	N/A	10
Odor (13) §§ —	N/A	Harmful	—	—	—	—	N/A	—
Oxamyl §§ — § D-1410 § DPX 1410 § Insecticide-Nematicide 1410 § Vydate § Thioxamyl § Methyl 2-(Dimethylamino)-N- § Vydate L, Insecticide/Nematicide § ({[Methylamino]Carbonyl}Oxy)-2-Oxoethanimidothioate § 2-Dimethylamino-1-(Methylthio)Glyoxal O-Methylcarbamoylmonozime § S-Methyl 1-Dimethylcarbamoyl)-N({Methylcarbamoyl}Oxy)Thioformimidate § Methyl N',N'-Dimethyl-N-({Methylcarbamoyl}Oxy)-1-Thiooxamimidate § N',N'-Dimethyl-N-[(Methylcarbamoyl)oxy]-1-Methylthiooxamimidic Acid	23135220 or 23135-22-0 NIOSH: RP 2300000 SAX: DSP600	Toxin	—	—	—	200	1	1
Oxygen, dissolved (20) §§ O_2 § Oxygen, Compressed § Oxygen, Refrigerated Liquid	7782447 or 7782-44-7 NIOSH: RS 2060000 SAX: OQW000	Toxin	(13) (15)	(15)	—	—	50	100
Parathion §§ — § DNTP § Niran § Phoskil § Paradust § Stathion § Strathion § Pestox Plus § Nitrostigmine § Parathion Ethyl § Parathion-ethyl § Ethyl Parathion § Diethylparathion § Caswell Number 637 § RCRA Waste Number P089 § EPA Pesticide Chemical Code 057501 § Diethyl 4-Nitrophenylphosphorothioate § Diethyl para-Nitrophenol Thiophosphate § Diethyl-p-Nitrophenyl Monothiophosphate § O,O-Diethyl O-4-Nitrophenyl Thiophosphate § Phosphorothioic Acid, O,O-Diethyl O-(4-Nitrophenyl) Ester	56382 or 56-38-2 NIOSH: TF 4920000, dry TF 4950000, liquid SAX: PAK250, dry SAX: PAK260, liquid	Toxin	0.065	0.013	—	—	0.06	1
Pentachlorobenzene §§ — § QCB § Benzene, Pentachloro- § RCRA Waste Number U183	608935 or 608-93-5 NIOSH: DA 6640000 SAX: PAV500	Toxin with BCF >300	—	—	2,125	3.5	N/A	0.1

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			Acute (3)	Chronic (4)				
Pentachlorophenol §§ — § PCP § Penta § Durotox § Weedone § Chem-Tol § Lauxtol A § NCI C54933 § NCI C55378 § NCI C56655 § Permite § Dowcide 7 § Permacide § Penta-Kil § Permagard § Penchlorol § Chlorophen § Pentachlorphenol § Pentaclorofenolo § Thompson's Wood Fix § Phenol, Pentachloro- § 2,3,4,5,6-Pentachlorophenol § 1-Hydroxy- 2,3,4,5,6-Pentachlorobenzene	87865 or 87-86-5 NIOSH: SM 6300000 SAX: PAX250	Carcinogen	20 @ pH of 7.8 (14)	13 @ pH of 7.8 (14)	11	1	N/A	0.05
pH (13) §§ —	N/A	Harmful - Surface Narrative - Ground	—	—	—	—	N/A	—
Phenanthrene (PAH) §§ — § Phenantrin	85018 or 85-01-8 NIOSH: SF 7175000 SAX: PCW250	Toxin	—	—	30	—	0.01	0.25
Phenol §§ — § Baker's P and S Liquid and Ointment § NCI C50124 § Benzenol § Monophenol § Oxybenzene § Phenic Acid § Carbolic Acid § Phenylic Acid § Hydroxybenzene § Hydroxybenzene § Phenyl Alcohol § Phenyl Hydrate § Phenylic Alcohol § Phenyl Hydroxide § Benzene, Hydroxy- § Monohydroxybenzene § RCRA Waste Number U188	108952 or 108-95-2 NIOSH: SJ 3325000 SAX: PDN750	Harmful	—	—	1.4	300	N/A	10
Phosphorus, inorganic (9) (20) §§ — § Ortho-phosphorus § phosphorus, Ortho-	14265442 or 14265-44-2 NIOSH: — SAX: —	Harmful	(8)	(8)	—	—	1	1
Picloram §§ — § ATCP § K-Pin § Tordon § Borolin § Amdon Grazon § NCI C00237 § Tordon 10K § Tordon 22K § Tordon 101 Mixture § 3,5,6-Trichloro-4-Aminopicolinic Acid § 4-Amino-3,5,6-Trichloropicolinic Acid	1918021 or 1918-02-1 NIOSH: TJ 7525000 SAX: AMU250	Toxin	—	—	—	500	0.14	1
Pyrene (PAH) §§ — § ß-Pyrine § beta-Pyrene § Benzo(def)Phenanthrene § Benzo[def]Phenanthrene	129000 or 129-00-0 NIOSH: UR 2450000 SAX: PON250	Carcinogen	—	—	30	9,600	N/A	0.25
Radium 226 §§ —	Radium 226 13982636 or 13982-63-6 NIOSH: — SAX: —	Carcinogen / Radioactive	—	—	—	200 picocuries/liter. Note: The sum of Radium 226 and 228.	N/A	—
Radium 228 §§ —	Radium 228 15262201 or 15262-20-1 NIOSH: — SAX: —	Carcinogen / Radioactive	—	—	—	200 picocuries/liter. Note: The sum of Radium 226 and 228.	N/A	—

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			Acute (3)	Chronic (4)				
Radon 222 §§ —	14859677 or 14859-67-7 NIOSH: — SAX: —	Carcinogen / Radioactive	—	—	—	3000 picocuries/liter	N/A	—
Sediment, settelable solids, oils, grease, or floating solids (18) §§ — § Methylene Blue Active Substances, § Residue, non-filterable, § Residue, non-settleable, § Settleable matter, § Oil & Grease, § Total Organic Carbon, § Hydrocarbons	N/A	Narrative (13)	—	—	—	—	N/A	—
Selenium (9) §§ Se § C.I. 77805 § Colloidal Selenium § Elemental Selenium § Selenium Alloy § Selenium Base § Selenium Dust § Selenium Elemental § Selinium Homopolymer § Selenium Metal Powder, Non-Pyrophoric § Vandex	7782492 or 7782-49-2 NIOSH: VS 7700000 VS 8310000, colloidal SAX: SBO500 SAX: SBP000, colloidal	Toxin	20	5	6	50	0.6	1
Silver (9) §§ Ag § Argentum § C.I. 77820 § Shell Silver § Silver Atom	7440224 or 7440-22-4 NIOSH: VW 3500000 SAX: SDI500	Toxin	4.1 @ 100 mg/l hardness (12)	—	0.5	—	0.2	3
Simazine §§ — § CDT § Herbex § Framed § Bitemol § Radokor § A 2079 § Batazina § Cat (Herbicide) § CET § G 27692 § Geigy 27,692 § Gesaran § Gesatop 50 § Simazine 80W § Symazine § Taphazine § W 6658 § Zeapur § Princep § Aquazine § Herbazin § Tafazine § 2,4-bis(Ethylamino)-6-Chloro-s-Triazine § 1-Chloro, 3,5-Bisethylamino-2,4,6-Triazine § 2-Chloro-4,6-Bis(Ethylamino)-1,3,5-Triazine § 6-Chloro-N,N'-Diethyl-1,3,5-Triazine-2,4-Diyldiamine	122349 or 122-34-9 NIOSH: XY 5250000 SAX: BJP000	Carcinogen	—	—	—	4	N/A	0.3
Strontium 89 (10) §§ —	14158271 or 14158-27-1 NIOSH: — SAX: —	Carcinogen / Radioactive	—	—	—	40 mrem ede/yr. Note: the sum of the dosage from Strontium 89 plus 90 cannot exceed this value.	N/A	—
Strontium 90 (10) §§ —	10098972 or 10098-97-2 NIOSH: — SAX: —	Carcinogen / Radioactive	—	—	—	40 mrem ede/yr. Note: the sum of the dosage from Strontium 89 plus 90 cannot exceed this value.	N/A	—
Styrene §§ — § Styrol § Cinnamol § Cinnamene § Cinnamenol § NCI C02200 § Styrole § Strolene § Styron § Stropor § Vinylbenzol § Phenethylene § Phenylethene § Vinylbenzene § Ethenylbenzene § Phenylethylene § Benzene, Vinyl- § Stryene, Monomer	100425 or 100-42-5 NIOSH: WL 3675000 SAX: SMQ000	Toxin	—	—	—	100	0.008	0.5

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16) Acute (3)	Aquatic Life Standards (16) Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Required Reporting Value (19)
Sulfate §§ SO_4	14808798 or 14808-79-8 NIOSH: — SAX: SNS000	Narrative (18)	—	—	—	—	N/A	1,000
Temperature (13) §§ —	N/A	Harmful	—	—	—	—	N/A	—
1,2,4,5-Tetrachlorobenzene §§ — § RCRA Waste Number U207 § Tetrachlorobenzene, 1,2,4,5- § Benzene, 1,2,4,5-Tetrachloro-	95943 or 95-94-3 NIOSH: DB 9450000 SAX: TBN750	Toxin with BCF >300	—	—	1,125	2.3	N/A	0.1
1,1,2,2-Tetrachloroethane §§ — § TCE § Cellon § Westron § Bonoform § Tetrachloroethane § sym-Tetrachloroethane § RCRA Waste Number U209 § Acetylene Tetrachloride § Tetrachloroethane, 1,1,2,2- § Ethane, 1,1,2,2-Tetrachloro- § 1,1-Dichloro-2,2-Dichloroethane	79345 or 79-34-5 NIOSH: KI 8575000 SAX: ACK500	Carcinogen	—	—	5	1.7	N/A	0.5
Tetrachloroethylene §§ — § NCI C04580 § PCE § Perk § PERC § ENMA § Dow-Per § Perchlor § Perclene § Perklone § Didakene § Tetra Cap § Percosolve § Perchlorethylene § Perchloroethylene § Tetrachloroethene § Carbon Bichloride § Carbon Dichloride § RCRA Waste Number U210 § Ethylene Tetrachloride § Ethylene, Tetrachloro- § 1,1,2,2-Tetrachloroethylene	127184 or 127-18-4 NIOSH: KX 3850000 SAX: TBQ250	Carcinogen	—	—	30.6	5	N/A	0.5
Thallium (9) §§ Tl § Ramor	7440280 or 7440-28-0 NIOSH: XG 3425000 SAX: TEI000	Toxin	—	—	119	1.7	0.3	3
Toluene §§ — § Antisal 1a § NCI C07272 § Toluol § Tolu-Sol § Methacide § Methylbenzol § Methylbenzene § Phenylmethane § Phenyl-Methane § Methyl-Benzene § Benzene, Methyl § RCRA Waste Number U220	108883 or 108-88-3 NIOSH: XS 5250000 SAX: TGK750	Toxin	—	—	10.7	1,000	0.01	0.5
Total dissolved solids (28) §§ TDS § Solids, total dissolved	Multiple	Narrative (18)	—	—	—	—	N/A	10,000
Toxaphene §§ — § Attac 4-2 § Alltox § Alltex § Attac 6 § Toxakil § Agricide § Chem-Phene § Clor Chem T-590 § Compound 3956 § Crestoxo § Estonox § Geniphene § Gy-Phene § Hercules 3956 § Melipax § Motox § PCC § Phenacide § Phenatox § Toxadust § Camphechlor § Maggot Killer (F) § Toxaphene mixture § Chlorinated-Camphene § Camphene, Octachloro- § RCRA Waste Number P123	8001352 or 8001-35-2 NIOSH: XW 5250000 SAX: THH750	Carcinogen	0.73	0.0002	13,100	0.0073	N/A	1

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16) Acute (3)	Aquatic Life Standards (16) Chronic (4)	Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Required Reporting Value (19)
1,2,4-Trichlorobenzene §§ — § unsym-Trichlorobenzene § Trichlorobenzene, 1,2,4- § Benzene, 1,2,4-Trichloro-	120821 or 120-82-1 NIOSH: DC 2100000 SAX: TIK250	Toxin	—	—	114	70	0.02	0.5
1,1,1-Trichloroethane §§ — § α-T § Strobane § Inhibisol § 1,1,1-TCE § Tri-Ethane § Solvent 111 § Aerothene TT § Chloroethene § Chlorten § NCI C04626 § Methylchloroform § Methyl Chloroform § Chloroform, Methyl- § 1,1,1-Trichloroethene § alpha-Trichloroethane § Methyltrichloromethane § RCRA WAste Number U226 § Trichloroethane, 1,1,1- § Ethane, 1,1,1-Trichloro-	71556 or 71-55-6 NIOSH: KJ 2975000 SAX: TIM750	Carcinogen	—	—	5.6	200	N/A	0.5
1,1,2-Trichloroethane §§ — § ß-T § Vinyl Trichloride § Ethane Trichloride § beta-Trichloroethane § 1,2,2-Trichloroethane § RCRA Waste Number U227 § Trichloroethane, 1,1,2- § NCI C04579 § Ethane, 1,1,2-Trichloro- § Caswell Number 875A [NLM] § EPA Pesticide Chemical Code 081203 [NLM]	79005 or 79-00-5 NIOSH: KJ 3150000 SAX: TIN000	Carcinogen	—	—	4.5	5	N/A	0.5
Trichloroethylene §§ — § TCE § Triad § Vitran § Algylen § Dow-Tri § Lanadin § Vestrol § Anamenth § Benzinol § Tri-Plus § Tri-Clene § Trichlorethene § Trichloroethene § Trichloroethane § Trichlorethylene § Tetrachloroethene § Ethene, Trichloro- § Ethylene Trichloride § Ethylene, Trichloro- § Acetylene Trichloride § 1,1,2-Trichloroethylene § 1,2,2-Trichloroethylene § 1-Chloro-2,2-Dichloroethylene § 1,1-Dichloro-2-Chloroethylene	79016 or 79-01-6 NIOSH: KX 4550000 SAX: TIO750	Carcinogen	—	—	10.6	5	N/A	0.5
Trichlorofluoromethane (HM) §§ — § F 11 § FC 11 § Freon 11 § Arcton 9 § Eskimon 11 § Halocarbon 11 § Algofrene Type 1 § RCRA Waste Number U121 § Fluorocarbon Number 11 § NCI C04637 § Isotron 11 § Fluorotrichloromethane § Isceon 131 § Monofluorotrichloromethane § Ucon Refrigerant 11 § Trichloromonofluoromethane	75694 or 75-69-4 NIOSH: PB 6125000 SAX: TIP500	Toxin	—	—	3.75	10,000	0.07	0.5
2,4,5-Trichlorophenol §§ — § Nurelle § Dowcide B § Dowcide 2 § Collunosol § Preventol 1 § Trichlorophenol, 2,4,5- § RCRA Waste Number U230 § NCI C61187	95954 or 95-95-4 NIOSH: SN 1400000 SAX: TIV750	Harmful	—	—	110	1	N/A	10
2,4,6-Trichlorophenol §§ — § Omal § Dowcide 2S § Phenachlor § RCRA Waste Number U231 § Trichlorophenol, 2,4,6- § Phenol, 2,4,6-trichloro- § NCI C02904	88062 or 88-06-2 NIOSH: SN 1575000 SAX: TIW000	Carcinogen	—	—	150	21	N/A	10

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
2 (2,4,5-Trichlorophenoxy) Proprionic Acid §§ — § Kuran § Propon § Silvex § Aqua-Vex § Ded-Weed § Sta-Fast § 2,4,5-TP § Color-Set § Weed-B-Gon § Double Strength § RCRA Waste Number U233 § 2,4,5-Trichlorophenoxypropionic Acid § α(2,4,5-Trichlorophenoxy)Propionic Acid § 2-(2,4,5-Trichlorophenoxy)-Proprionic Acid § Trichlorophenoxy Proprionic Acid, 2 (2,4,5- § (+/-)-2-(2,4,5-Trichlorophenoxy)propanoic Acid	93721 or 93-72-1 NIOSH: UF 8225000 SAX: TIX500	Toxin	—	—	—	10	0.075	0.1
Trihalomethanes, total §§ — § TTHMs	Multiple	Carcinogen	—	—	—	100	N/A	2
Tritium (10) §§ H³	10028178 or 10028-17-8 NIOSH: — SAX: —	Carcinogen / Radioactive	—	—	—	40 mrem ede/yr	N/A	—
Turbidity (13) (20) §§ —	N/A	Harmful	—	—	—	—	N/A	1 NTU
Uranium, natural §§ U § Uranium Metal, Pyrophoric	7440611 or 7440-61-1 NIOSH: YR 3490000 SAX: UNS000	Carcinogen / Radioactive	—	—	—	300 picocuries per liter.	N/A	—
Vinyl Chloride §§ — § VC § VCM § Chlorethene § Chloroethene § Chlorethylene § Chloroethylene § Ethylene, Chloro- § Monochloroethylene § Ethylene Monochloride § RCRA Waste Number U043 § Vinyl Chloride Monomer § Vinyl C Monomer § Trovidur	75014 or 75-01-4 NIOSH: KU 9625000 SAX: VNP000	Carcinogen	—	—	1.17	2	N/A	0.5
Xylenes §§ — § Xylol § Violet 3 § Mixed Xylenes § Methyl Toluene § Dimethylbenzene § RCRA Waste Number U239 § NCI C55232 § Total equals the sum of meta, ortho, and para.	1330207 or 1330-20-7 NIOSH: ZE 2100000 SAX: XGS000	Toxin	—	—	—	10,000	0.5	1.5
Xylenes §§ — § Xylol § Violet 3 § Mixed Xylenes § Methyl Toluene § Dimethylbenzene § RCRA Waste Number U239 § Total equals the sum of meta, ortho, and para.	1330207 or 1330-20-7 NIOSH: ZE 2100000 SAX: XGS000	Toxin	—	—	—	10,000	0.5	1.5
Xylenes §§ — § Xylol § Violet 3 § Mixed Xylenes § Methyl Toluene § Dimethylbenzene § RCRA Waste Number U239 § Total equals the sum of meta, ortho, and para.	1330207 or 1330-20-7 NIOSH: ZE 2100000 SAX: XGS000	Toxin	—	—	—	10,000	0.5	1.5
m-Xylene §§ — § m-Xylol § 1,3-Xylene § meta-Xylene § m-Dimethylbenzene § m-Methyltoluene § 1,3-Dimethylbenzene § 1,3-Dimethyl Benzene	108383 or 108-38-3 NIOSH: ZE 2275000 SAX: XHA000	Toxin	—	—	—	10,000	0.004	1.5

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)	Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)				
o-Xylene §§ — § o-Xylol § 1,2-Xylene § ortho-Xylene § o-Methyltoluene § o-Dimethylbenzene § 1,2-Dimethylbenzene § 1,2-Dimethyl Benzene	95476 or 95-47-6 NIOSH: ZE 2450000 SAX: XHJ000	Toxin	—	—	—	10,000	0.004	1.5
p-Xylene §§ — § p-Xylol § Chromar § Scintillar § 1,4-Xylene § para-Xylene § p-Methyltoluene § p-Dimethylbenzene § 1,4-Dimethylbenzene § 1,4-Dimethyl Benzene	106423 or 106-42-3 NIOSH: ZE 2625000 SAX: XHS000	Toxin	—	—	—	10,000	0.002	1.5
Zinc (9) §§ Zn § Blue Powder § C.I. 77945 § C.I. Pigment Black 16 § C.I. Pigment Metal 6 § Emanay Zinc Dust § Granular Zinc § Jasad § Merrillite § Pasco § Zinc, Powder or Dust, non-Pyrophoric § Zinc, Powder or Dust, Pyrophoric	7440666 or 7440-66-6 NIOSH: ZG 8600000 SAX: ZBJ000	Toxin	120 @ 100 mg/l hardness (12)	110 @ 100mg/l hardness (12)	47	5,000	5	10

CIRCULAR WQB-7
DETAILED NOTES OF EXPLANATION

Frequently used Acronyms:

§§ abc...	Name of Primary Synonym as listed in the EPA's data base IRIS.
§ abc...	Name of Additional Synonyms from various sources including IRIS.
BCF	Bio-concentration Factor.
CFR	Code of Federal Regulations.
EDE/YR	Effective dose equivalent per year.
E.P.A.	Environmental Protection Agency.
FPH	A factor in the formula for determining ammonia Standards for Freshwater Aquatic Life.
FT	A factor in the formula for determining ammonia Standards for Freshwater Aquatic Life.
HM	Halomethanes.
MDL	Method Detection Limit. The MDL is calculated from the standard deviation of replicate measurements, and is defined as the minimum concentration of a substance that can be identified, measured, and reported with 99% confidence that the analyte concentration is greater than zero.
MREM	Milli Roentgen-Equivalent-Man.
N/A	Not applicable.
n.d.	Not determined.
NTU	Nephelometric Turbidity Unit.
PAH	Polynuclear Aromatic Hydrocarbons.
PCB	Polychlorinated Biphenyls.

CIRCULAR WQB-7
DETAILED NOTES OF EXPLANATION

TCAP — A factor in the formula for determining ammonia Standards for Freshwater Aquatic Life.

(1) Based on EPA's categories and include parameters determined to be to toxic (toxin), carcinogenic (carcinogen), or harmful. Harmful parameters include nutrients, biological agents, and those parameters which cause taste and/or odor effects or physical effects.

(2) Carcinogens: chemicals classified by EPA as carcinogens for an oral route of exposure; Standards are based upon the incremental risk of causing one additional instance of cancer in one hundred thousand persons, except for arsenic, where the basis is one additional instance of cancer in one thousand persons. Includes those parameters in classifications A (Human Carcinogen),B1 or B2 (Probable Human Carcinogens), and C (Possible Human Carcinogen).

(3) No sample shall exceed these concentrations.

(4) No four-day (96-hour) or longer period average concentration shall exceed these values.

(5). All bioconcentration factors (BCF's) were developed by the EPA as part of the Standards development as mandated by Section 304(a) of the Federal Clean Water Act. Values shown are current as of 07/01/1993.

(6) No sample shall exceed these concentrations.

Standards for metals (except aluminum) in surface water are based upon the analysis of samples following a "total recoverable" digestion procedure (Section 9.4, "Methods for Analysis of Water and Wastes", 1983, Environmental Monitoring and Support Laboratory, U.S. Environmental Protection Agency, EPA-600/4-79-020, or equivalent).

Standards for metals in ground water are based upon the dissolved portion of the sample (after filtration through a 0.45 μm membrane filter, as specified in "Methods for Analysis of Water and Wastes", 1983, Environmental Monitoring and Support Laboratory, U.S. Environmental Protection Agency, EPA-600/4-79-020, or equivalent).

For aluminum, both surface and ground water analyses will be based on the dissolved method of analysis.

(7) Freshwater Aquatic Life Standards for total ammonia nitrogen (mg/l NH_3-N plus NH_4-N) are expressed as a function of pH and temperature. The Acute equation and the Chronic equation are as follows:

$$\text{Acute}^{a,c} = 0.822 \times (0.52/FT/FPH/2)$$

where

$$FT = 10^{0.03(20-TCAP)} \quad \text{if } TCAP \leq T \leq 30$$

$$= 10^{0.03(20-T)} \quad \text{if } 0 \leq T < TCAP$$

$$FPH = 1 \quad \text{if } 8 \leq pH \leq 9$$

$$= (1 + 10^{7.4-pH})/1.25 \quad \text{if } 6.5 \leq pH < 8$$

TCAP	= 20° C	if Salmonids or other sensitive cold-water species present.
	= 25° C	if Salmonids and other sensitive cold-water species absent.

[a] The usual Acute averaging period of one hour is not appropriate if excursions of concentrations to greater than 1.5 times the average occur during the hour; in such cases, a shorter averaging period will be required.

Chronic[b,c] = 0.822 x (0.80/FT/FPH/RATIO) where FT and FPH are as above and:

RATIO	= 13.5	if $7.7 \leq pH \leq 9$
	$= 20(10^{7.7-pH}/1 + 10^{7.4-pH})$	if $6.5 \leq pH < 7.7$
TCAP	= 15° C	if Salmonids/other sensitive cold-water species present.
	= 20° C	if Salmonids/other sensitive cold-water species absent.

[b] Because these formulas are non-linear in pH and temperature, the Standard is the average of separate evaluations of the formulas reflective of the fluctuations of flow, pH, and temperature within the averaging period; it is not appropriate to apply the formula to average pH, temperature and flow.

[c] These formulas yield the allowable concentration of NH_3-N. To convert these values to the total ammonia as nitrogen (mg/l NH_3-N plus NH_4-N) which is the usual way that analytical results are expressed the following formula must be used.

Total ammonia as nitrogen = $NH_3\text{-}N \times (1+10^{PKA-pH})$

Where PKA = 0.09018 + 2729.92/T

and T = degrees centigrade + 273.2

(8) A plant nutrient, excessive amounts of which may cause violations of Administrative Rules of Montana (ARM) 16.20.633.(1)(e).

(9) Approved methods of sample preservation, collection, and analysis for determining compliance with the standards set forth in WQB-7 are found in:

1) 40 CFR Part 136 "Guidelines Establishing Test Procedures For the Analysis Of Pollutants", July 1, 1992, and;
2) The Environmental Protection Agency's (EPA) Methods for the Determination of Metals in Environmental Samples, EPA/600 4-91/010, dated June 1991, or equivalent, as determined by the Department.

(10) Radionuclide photon-emitters consisting of either beta or gamma emitters and are classified as carcinogenic. Their associated Standard is based upon a 4 mrem ede/yr exposure. This exposure is based upon daily ingestion of 2 liters of water. The emitters covered under this Standard are:

- Cesium, radioactive
- Iodine, radioactive
- Strontium -89 and -90, radioactive
- Tritium
- Gamma photon emitters

(11) Chemicals which are not individually classified as carcinogens but which are contained within a class of chemicals with carcinogenicity as the basis for the Standard derivation for that class of chemicals; an individual carcinogenicity assessment for these chemicals is pending.

(12) Freshwater Aquatic Life Standards for these metals are expressed as a function of total hardness (mg/l, CaCO3). The values displayed in the chart correspond to a total hardness of 100 mg/l. The hardness relationship is as follows:

Acute = exp{ma[ln(hardness)]+ba}   Chronic = exp{mc[ln(hardness)]+bc}

	ma	ba	mc	bc
cadmium	1.128	-3.828	0.7852	-3.490
copper	0.9422	-1.464	0.8545	-1.465
chromium (III)	0.8190	3.688	0.8190	1.561
lead	1.273	-1.460	1.273	-4.705
nickel	0.8460	3.3612	0.8460	1.1645
silver	1.72	-6.52	------	------
zinc	0.8473	0.8604	0.8473	0.7614

Note: If the hardness is <25mg/L as $CaCO_3$, the number 25 will be used in the calculation. If the hardness is greater than or equal to 400 mg/L of $CaCO_3$, 400 mg/L will be used in the calculation.

(13) Conditional limitations based upon Water-Use Classifications. See Administrative Rules of Montana (ARM), Title 16, Chapter 20 - Water Quality, Sub-Chapter 6 - SURFACE WATER QUALITY STANDARDS. For groundwater see the Administrative Rules of Montana (ARM) 16.20.633(1) et seq and ARM 16.20.1003 et seq.

(14) Freshwater Aquatic Life Standard for pentachlorophenol are expressed as a function of pH. Values displayed in the chart correspond to a pH of 7.8 and are calculated as follows:

Acute = exp[1.005(pH) - 4.830]   Chronic = exp[1.005(pH) - 5.290]

(15) Freshwater Aquatic Life Standard for dissolved oxygen are as follows:

<u>Standards for Waters Classified</u>   <u>Standards for Waters classified</u>

CIRCULAR WQB-7
DETAILED NOTES OF EXPLANATION

	A-1, B-1,B-2, C-1, and C-2		B-3, C-3, and I	
	Early Life Stages[1,2]	Other Life Stages	Early Life Stages[2]	Other Life Stages
30 Day Mean	N/A[3]	6.5	N/A[3]	5.5
7 Day Mean	9.5 (6.5)	NA	6.0	NA
7 Day Mean Minimum	N/A[3]	5.0	N/A[3]	4.0
1 Day Minimum[4]	8.0 (5.0)	4.0	5.0	3.0

[1] These are water column concentrations recommended to achieve the required inter-gravel dissolved oxygen concentrations shown in parentheses. For species that have early life stages exposed directly to the water column, the figures in parentheses apply.

[2] Includes all embryonic and larval stages and all juvenile forms to 30-days following hatching.

[3] N/A (Not Applicable).

[4] All minima should be considered as instantaneous concentrations to be achieved at all times.

(16) Aquatic Life Standards apply to surface waters only.

(17) For surface waters the Standard is the more restrictive of either the Aquatic Life Standard or the Human Health Standard. For groundwaters the standards are based on the dissolved portion (after filtration through a 0.45 micro filter) of the contaminating substance as specified in the EPA publication, EPA 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes."

(18) The Narrative Standards are located in the Administrative Rules of Montana (ARM) 16.20.633(1) et seq and ARM 16.20.1003 et seq.

(19) The required 'Reporting Value' is the Department's best determination of a level of analysis that should be achieved in routine sampling. It is based on levels actually achieved at both commercial and government laboratories

in Montana using accepted methods. 'Reporting Value' is the detection level that must be achieved in reporting ambient or compliance monitoring results to the Department. Higher detection levels may be used if it has been demonstrated that the higher detection levels will be less than 10% of the expected level of the sample.

(20) Applicable to surface waters only.

(21) Applicable to ground waters only.

(22) Estimated Detection Levels (EDL's) are used as "Trigger Values" whenever MDL's are unavailable. Trigger Values are used to determine whether-or-not a given increase in the concentration of Toxic parameters is significant or non-significant as per the non-degredation rules.

(23) Levels of individual petrochemicals in the water column should not exceed 0.010 of the lowest continious flow 96-hour LC_{50} to several important freshwater species, each having a demonstrated high susceptibility to oils and petrochemicals.

(24) Settleable and suspended solids should not reduce the depth of the compensation point for photosynthetic activity by more than 10 percent from the seasonally established norm for aquatic life.

(25) CASRN is an acronym for the American Chemical Society's Chemical Abstracts Service Registry Number.

(26) NIOSH RTECS number is a unique number used for accession to the National Institute For Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances.

(27) SAX number in the format AAA123 is a unique number for identification of materials in the Dangerous Properties of Industrial Materials, authors N. Irving Sax and Richard J. Lewis, publisher Van Nostrand Reinhold.